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Ministry of Labour and Human Resources
Department of Labour

Regulation on Occupational Health, Safety and Welfare, 2022

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Funded by

March 1st, 2022

Foreword

The Ministry of Labour and Human Resources through the Department of Labour, continuously strives to strengthen the administration and enforcement of occupational health and safety standards in the workplaces. Therefore, we are pleased to bring out a revised Regulation on Occupational Health, Safety and Welfare. This regulation was revised adopting the international best practice principles as defined in relevant international labour standards.

Through this Regulation the Ministry emphasis on promotion of a healthy and safe workplace for the development of a sustainable safety culture within enterprises and beyond. Health and safety is a fundamental requirement of a sustainable business and also regarded as an essential part of business management. Accidents and work related diseases are mostly caused either by negligence or due to the absence of simple safety gears, safety measures and safety drills. The safety of employees has been an area where we want to adopt a zero tolerance. With this Regulation in place, the Ministry hopes to reduce accidents and occupational disease in the workplaces irrespective of the type and nature of an industry.

By working together to promote safe and healthy workplaces, we will be able to reduce injuries, incidents, lost-time claims, workplace fatalities, and creating a harmonious and productive working life. This will in fact provide a win-win situation to employers and employees in long run.

This Regulation will supersede the “General Rules and Regulation on Occupational Health and Safety in Construction, Manufacturing, Mining, and Service Industries, 2006”.

I earnestly appeal to all to promote safe, harmonious and productive workplaces.

(Karma Dorji)
Minister

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Introduction

In exercise of the powers conferred under Section 234, read with the provisions of Chapter IX of the Labour and Employment Act of Bhutan 2007, the Ministry of Labour and Human Resources hereby promulgates this Regulation on Occupational Health, Safety and Welfare.

Chapter 1
Preliminary

Preliminary

1. This Regulation shall be called "Regulation on Occupational Health, Safety and Welfare".

2. This Regulation contains legal requirements that must be met by all workplaces within the coverage of the Labour and Employment Act of Bhutan 2007 that come under the inspectorial jurisdiction of the Department of Labour, Ministry of Labour and Human Resources.

3. This Regulation shall come into force with effect from March 1st, 2022.

Purpose

4. The purpose of this Regulation is to establish standards on occupational health, safety and welfare on premises, instruments, equipment, appliances, apparatus, tools, devices, electrical safety and other hazardous conditions. It is to ensure health, safety and welfare for employees as well as other persons at the work places from work related risks as

provided in Chapter IX of the Labour and Employment Act of Bhutan 2007.

Scope

5. This Regulation applies to all types of employment except in farming.

Repeals

6. The following are hereby repealed:

   (1) Circular on Personal Protective Equipment via letter No. MoLHR/DoL/LPD/2012-13/100 dated 10th September, 2012.

Chapter 2
Administration

Power of Labour Inspectors

7. Section 27 of the Act empowers the Labour Inspectors to:

(1) inquire and examine any documents, equipments, materials and articles relating to safety and health at the workplace;

(2) inquire into any accident or dangerous occurrence whether resulting in bodily injury, disability or not;

(3) take photographs and make such recordings as they consider necessary for the purpose of any examination;

(4) take/make copy of any documents that may be evidence of non-compliance under the Act and its Regulations;

(5) exercise such other powers as may be prescribed by the Act and its regulations or by any order; and

(6) issue an order in writing, requiring an employer before a specific date to furnish the following if it appears to the Labour Inspector that any building or part of a building or any part of the machinery or plant in a workplace is in such a condition that it may be dangerous to human life or safety:

(a) to furnish such drawings, specifications and other particulars as may be necessary to determine whether such building, ways, machinery or plant can be used with safety; or

(b) to carry out such tests in such manner as may be specified in the order, and to inform the Labour Inspector of the results thereof.

Enforcement Notices

8. In accordance with Sections 40 and 43 of the Act and Regulation on Working Condition, 2022, the Labour Inspector may issue an improvement or prohibition or penalty notice to an employer on the spot during the inspection or up to 5 working days after the visit has been completed.

Appeals Against Notices

9. If an improvement or prohibition notice is issued it shall remain in force:

(1) until the Labour Inspector certifies in writing that the matter which gives or will give rise to the risk are remedied; or

(2) after an appeal under Section 47 of the Act has been decided.

Prompt Compliance

10. Every person to whom notices, penalty, order or directive is issued by a Labour Inspector must comply promptly within the given time frame.

11. A person who fails to comply with notice affirmed by the Chief Labour Administrator, shall be liable for the penalty as per Section 50 of the Act.

Chapter 3
General Duties and Rights

General Duties of Employers

12. The employer shall ensure the health, safety and welfare of their employees and non-employees who might be affected by their business undertaking. The employer shall also comply with the Act and its Regulations and any other orders applicable.

13. Without limiting to Section 12, the employer shall:

    (1) improve the working environment that is hazardous to the health or safety of the employee;

    (2) ensure that the employees are made aware of all known or reasonably foreseeable health or safety hazards to which they are likely to be exposed by virtue of their work;

    (3) ensure that the employees are made aware of their rights and duties under this Regulation;

    (4) ensure that the workplace or environment is free from violence and harassment. The workplace violence and harassment shall include any act or threat of physical violence, verbal abuse and even homicide, harassment, intimidation, or other threatening disruptive behavior that occurs at the work site;

    (5) prepare and implement the Occupational Health and Safety program in accordance with the Act and this Regulation;

(6) ensure the health and safety of non-employee persons including sub-contractors, visitors and general public present in their work place;

(7) provide to the employees the information, instruction, training and supervision necessary to ensure the health and safety of those employees in carrying out their work and to ensure the health and safety of other persons at the workplace; and

(8) ensure that the sub-contractor (if any) complies with the Act and its Regulations and any other orders applicable.

General Duties of Supervisors

14. Every supervisor shall:

(1) ensure the health and safety of all employees under their direct supervision;

(2) have adequate knowledge on the provisions of the Labour and Employment Act of Bhutan, 2007 and its Regulations applicable to the workplace and be competent to supervise and provide at the workplace all the necessary facilities for protecting employees; and

(3) comply with this Regulation and any other applicable orders.

15. Without limiting to Section 14, the supervisor shall ensure that the employees under their direct supervision:

(1) are made aware of all known or reasonably foreseeable health or safety hazards in the area where they work;

(2) comply with this Regulation and any other applicable orders;

(3) consult and cooperate with the health and safety officer (if any) and health and safety representative (if any) for the workplace; and

(4) cooperate with the officials of the Department of Labour and any other person carrying out a duty under this Regulation.

General Duties of Employees

16. Without limiting to Sections 159 and 160 of the Act, every employee shall:

(1) carry out their work in accordance with established safe work procedures as required by this Regulation;

(2) use or wear protective equipment, devices and clothing as required by this Regulation;

(3) not engage in horseplay or similar conduct that may endanger themselves or other employees or any other person;

(4) ensure that their ability to work without risk to their own health or safety, or to the health or safety of any other person, is not impaired by alcohol, drugs or other causes;

(5) report to the supervisor or employer:

(a) any contravention of this Regulation or any other applicable order of which the employee is aware; and

(b) the absence of or defect in any protective equipment, device or clothing or the existence of any other hazard, that the employee considers is

likely to endanger the employee or any other person.

(6) cooperate with the Health and Safety Committee (if any), Safety Officer (if any), Safety Supervisor (if any) or employee's Health and Safety Representative (if any) for the workplace; and

(7) cooperate with the officials of the Department of Labour and any other person carrying out a duty under this Regulation.

Duties of Other Persons

17. A person who designs, manufactures, imports or supplies any machineries or chemicals for use at a workplace shall:

(1) ensure that the machineries or chemicals are designed, manufactured and labelled to be safe and without risks to the health or safety of employees when used properly and in accordance with relevant information and instructions provided by the designer, manufacturer, importer or supplier; and

(2) take such steps to provide adequate information and instructions to purchasers and users about the use for which each machine or chemical has been designed, its correct installation and any requirements necessary to ensure that it will be safe and without risks to health when properly used.

Rights of Employee

18. Subject to the provisions of Section 162 to 165 of the Act, the supervisor or employer receiving a report made under the relevant sections of the Act shall:

(1) immediately investigate the matter; and

(2) ensure that the reported unsafe condition is removed without delay; or

(3) if in their opinion, the report is not valid, must so inform the person who made the report.

Penalty

19. The employer who contravenes Sections 12 and 13 of this Regulation shall be liable for penalty in accordance with Section 145 of the Act.

20. The employee who contravenes Section 16 of this Regulation shall be liable to pay a fine of:

(1) First instance: Fifteen (15) times the Daily National Minimum Wage;

(2) Second instance: Thirty (30) times the Daily National Minimum Wage; and

(3) Third and repeated instances: Sixty (60) times the Daily National Minimum Wage.

21. The penalty imposed to the employee(s) shall be paid by the employer, for which the employer may deduct the amount paid, from the employee's wage/salary.

22. A person who contravenes Section 17 of this Regulation shall be liable for a penalty as per Section 168 of the Act.

23. The employer who contravenes Section 18 of this Regulation shall be liable to pay a fine of:

(1) First instance: Ninety (90) times the Daily National Minimum Wage;

(2) Second instance: One hundred and eighty (180) times Daily the National Minimum Wage; and

(3) Third and subsequent: Three hundred and sixty (360) times Daily the National Minimum Wage.

Chapter 4
Workplace Health and Safety Management

Workplace Registration

24. Where any person at work in any workplace carries out any process, operation or work, the employer shall register the workplace with the Chief Labour Administrator in accordance with the Regulation on Working Conditions, 2022.

Change or Closure of a Workplace

25. The employer shall report in writing to the Chief Labour Administrator and Labour Inspector any intended closure of the workplace or change in business, name, location and ownership which falls within the Act in accordance to the Regulation on Working Conditions, 2022.

Health and Safety Policy

26. A Health and Safety policy shall be prepared and implemented by the employer that is either a:

    (1) registered company under the Companies Act of Kingdom of Bhutan (2000); or

    (2) small, medium or large-scale industry; or

    (3) having twelve or more employees.

27. The Health and Safety policy statement should contain or deal with:

    (1) declared intention and commitment of the top management to health, safety and environment and compliance with all the relevant statutory requirements;

(2) organizational set up to carry out the declared policy clearly assigning the responsibility at different levels; and

(3) arrangements for making the policy effective.

28. The copy of the declared "Health and Safety Policy Statement" signed by the employer shall be sent to the Labour Inspector and will also be made available to all employees including contract employees, transporter and suppliers etc. A copy of the policy statement shall be displayed at a conspicuous place in Dzongkha and English.

29. The employer shall also revise the Health and Safety policy as and when there is modification or expansion of the plant or new substances or articles are used at the workplace.

Health and Safety Committee

30. In every enterprise employing 20 or more employees, the Health and Safety Committee shall be constituted:

(1) within 90 days from the date of commencement of the business;

(2) for the existing enterprise within 60 days from the date of commencement of this Regulation; and

(3) to notify the Chief Labour Administrator in such a form set out in Form 3.

Composition of Health and Safety Committee

31. In every enterprise wherein 100 or more employees are employed, the safety committee shall comprise of the following:

(1) Chairperson: The employer or any senior officer wo by virtue of their position in the organization can contribute effectively;

(2) Members:

(a) Three management officials including a medical professional/nurse (if any);

(b) Four employees (one shall be the Health and Safety Representative); and

(c) Secretary: The Safety Officer shall act as the Secretary of the Committee.

32. In every workplace wherein 20-99 employees are employed, the safety committee shall comprise of the following:

(1) Chairperson: The employer or any senior officer who by virtue of their position in the organization can contribute effectively;

(2) Members:

(a) Two management officials including a medical professional/nurse (if any);

(b) Three employees (one shall be the Health and Safety Representative); and

(c) Secretary: The Safety Officer shall act as the Secretary of the Committee.

33. Notwithstanding Sections 31 and 32, the Health and Safety Committee may increase its members provided that the number of employer's representatives does not exceed employees' representatives.

34. The management representative shall be appointed by the employer and the employees' representative shall be selected by simple majority vote of the employees.

35. The Committee shall meet as often as necessary but at least once in a quarter.

36. The minutes of the meeting shall be recorded in the "minutes book" which shall be produced on demand by the Labour Inspector or any relevant government agencies.

37. The Health and Safety Committee shall have right to be adequately and suitably informed of:

    (1) potential safety and health hazards to which people may be exposed at work place; and

    (2) data on accident and surveillance including medical examination which would be used by the committee only for the sake of guidance and advice for the improvement of work environment and would be kept confidential.

Functions of a Health and Safety Committee

38. The functions and duties of the Health and Safety Committee includes:

    (1) assisting and cooperating with the management in achieving the aims and objectives outlined in the "Health and Safety Policy" of the enterprise;

    (2) preparing a Health And Safety program for prevention against accidents and diseases in the workplace;

    (3) dealing with all matters concerning health, safety and environment;

    (4) conducting safety awareness programs at the workplace;

(5) carrying out educational, training and promotional activities; and

(6) studying the accident statistics and trends of the enterprise, prepare reports on unsafe and unhealthy conditions and practices, and make recommendations for corrective action.

Appointment of Safety Officer

39. In every enterprise wherein 20 or more employees are employed, the employer shall appoint a full-time Safety Officer:

(1) within 90 days from the date of the commencement of business operation; and

(2) for an existing enterprise within 60 days from the date of commencement of this Regulation.

Qualification

40. A Safety Officer should:

(1) preferably be a person qualified in occupational health, safety, and environment field/ subject; or

(2) be a person who has been working in occupational health, safety and environment field for a period of not less than 5 years; or

(3) be a person who has been trained and certified by a competent authority.

Certification and Registration of Safety Officer

41. The Safety Officer shall be certified by a competent authority and registered with the Department of Labour, Ministry of Labour and Human Resources.

Training and Facilities to be Provided by the Employer

42. An employer shall provide the Safety Officer with:

    (1) training courses of instruction, seminars, conferences and meetings to ensure that the Safety Officer has sound knowledge of their functions and duties under this Regulation; and

    (2) such facilities, equipment and information that are necessary to enable them to discharge their duties effectively.

Duties of Safety Officer

43. The Safety Officer shall:

    (1) advise and assist the management in maintaining a safe working environment;

    (2) act as the Secretary to the Health and Safety Committee;

    (3) advise the management or concerned department in planning and organizing measures necessary for effective control of workplace accident and personal injuries;

    (4) advise and carry out inspection, periodic hazard-identification and risk-assessment to ensure a safe and healthy workplace;

(5) investigate every accident and dangerous occurrence which took place within the workplace and any occupational disease contracted in the workplace;

(6) render advice on matters pertaining to reporting and investigations of workplace accidents and diseases;

(7) advise and maintain such records as are necessary relating to accident, dangerous occurrences and industrial diseases under the Act and its related regulations;

(8) organize campaigns, training courses, competitions, contests and other activities which will develop and maintain the interests of the persons employed in the workplace in establishing and maintaining safe and healthy working conditions;

(9) advise the employer on the specifications:

(a) for any repair or alteration to be made to the workplace or any extension thereof; and

(b) of any new machinery, plant, equipment or appliance to be installed or used in the workplace.

(10) co-operate with any doctor engaged to look after the health of the persons employed in the workplace on all matters affecting the safety and health of those persons; and

(11) be a focal contact to the Department of Labour in relation to Occupational Health and Safety.

Safety Officer to Submit Reports

44. The Safety Officer shall prepare and submit to the employer or the manager or other person in charge of the workplace a monthly report on the work activities carried out as the duties of the Safety officer as mentioned in Section 43 of this Regulation.

45. The report referred to in Section 44 of this Regulation shall be kept at the workplace for inspection by the Labour Inspector.

Action to be Taken by Employer on Report.

46. The employer or person in charge of a workplace to whom a report is submitted shall, not later than 2 weeks after receipt of the report, discuss the report with the Safety Officer and require any other person employed in the workplace to take such action or measures as the employer or person in charge think fit.

47. The employer or person in charge of a workplace, as the case may be, shall countersign the report which shall be kept available for inspection by the Labour Inspector for at least 5 years.

Appointment of Health and Safety Representative

48. The employees at a workplace shall appoint one of its members to be their Health and Safety Representative at that workplace in accordance with the provisions of Section 166 of the Act.

49. The employer shall not discriminate or take disciplinary action of any kind on the Occupational Heath and Safety Representative for having acted in accordance with this Regulation.

Health and Safety Program

50. The employer shall prepare and implement an occupational Health And Safety program that ensures each workplace of the enterprise is safe and healthy.

51. The Health and Safety program should specify the following:

    (1) arrangement for involving the employees;

    (2) intention of taking into account the health and safety performance of the individual at different levels while considering their career advancement;

    (3) fixing the responsibility of the contractors, sub-contractors, transporters and other agencies entering the premises;

    (4) relevant techniques and methods, such as periodic monitoring, safety audits and risk assessment of the status on health, safety and environment and taking all remedial measures;

    (5) stating its intentions to integrate health and safety, in all decisions including those dealing with purchase of plants, equipment, machinery and material as well as selection and placement of personnel;

    (6) arrangements for informing, educating and training and retraining its own employees at different levels and the public, wherever required.

Risk Assessment

52. In every workplace, the employer shall identify the hazards and conduct a risk assessment in relation to the safety and health risks posed to any person.

53. The risk assessment should be carried out whenever there is change in the work process, new machines and equipment are installed, anticipated existence of hazards that may have potential harm to the safety and health of the employees, and the work activities involves numbers of different hazards.

Elimination and Control of Risk

54. In every workplace, the employer shall take all reasonably practicable steps to eliminate any foreseeable risk to any person who may be affected by his/her undertaking in the workplace.

55. Where it is not possible to eliminate the risk referred to in Section 54 of this Regulation, the employer shall implement reasonably practicable measures to minimize the risk.

56. The measures referred to in Section 55 of this Regulation may include all or any of the following:

    (1) substitution;

    (2) engineering control;

    (3) administrative control; and

    (4) provision and use of suitable personal protective equipment.

57. The employer shall specify the roles and responsibilities of persons involved in the implementation of any measure of safe work procedure referred to in Section 56 of this Regulation.

Information to Employees

58. The employer shall provide information to the employees on any existing risks at the workplace, the nature of risk involved and safe work procedures implemented under Section 54 of this Regulation.

Review of Risk Assessment Procedure

59. The employer shall review the risk assessment procedure, whenever it is necessary, or;

    (1) upon the occurrence of any workplace incidents or accident; or

    (2) where there is a significant change in work practices or procedures.

Records of Risk Assessment

60. The employer shall:

    (1) maintain a record of any risk assessment conducted under Section 52 of this Regulation, and any measure or safe work procedure implemented under Section 55 of this Regulation; and

    (2) produce the record referred to in Section 60 on demand by the Labour Inspector.

Lockout Tagout Procedure

61. The employer shall plan and implement lockout tagout procedures relating to the inspection, cleaning, repair or maintenance of any plant, machinery, equipment or electrical installation in the workplace that, if inadvertently activated or energized, is likely to cause bodily injury to any person.

62. The employer shall ensure that every person carrying out any inspection, cleaning, repair or maintenance of any plant, machinery, equipment or electrical installation in the workplace is fully instructed on the lockout tagout procedures for that work before commencing that work.

Workplace Emergency Action Plan

63. In any workplace of an enterprise with 20 or more employees, the employer shall prepare and implement a Workplace Emergency Action plan. However, for the construction industry it shall be in accordance with the Regulation on Occupational Health and Safety for the Construction Industry.

64. The Workplace Emergency Action Plan should include at a minimum:

(1) procedure for reporting of fire or other emergencies;

(2) procedure for emergency evacuation, including types of evacuations and exit route assignments;

(3) procedure to be followed by the employees who remain to operate critical plant operation before they evacuate;

(4) procedure to account for all employees after evacuation;

(5) procedure to be followed by the employees performing rescue or medical duties; and

(6) name or job title of every person to be contacted during fire and other emergencies.

65. The employer shall designate a trained employee to assist in a safe and orderly evacuation of other employees.

66. The employer shall identify emergency assembly points at a safe location. The emergency assembly point does not confine to one location.

67. The employer shall review the Workplace Emergency Action Plan with each employee covered by the plan when:

    (1) the plan is developed or the employee is initially assigned to the job;

    (2) the employee's responsibility under the plan change; and

    (3) the plan is changed.

Safety Signage

68. An employer shall:

    (1) provide safety or health signs, or both, at the place of work where hazards cannot be avoided or adequately reduced by techniques for collective protection or measures, methods or procedures used in the organization of work; and

    (2) ensure that such signs are displayed in appropriate places.

69. Use signs and signals prescribed under this Regulation or any other laws regulating transport or movement of traffic involving road, inland waterway, or air in relation to risk, where such forms of transport:

    (1) are present at the place of work; and

    (2) give rise to a risk to the safety or health of any employee.

70. The employer shall ensure that safety or health signs used at work complies with Schedule I of this Regulation.

71. The employer shall provide information and instruction on measures to be taken and on the meaning of safety signs and signals used.

Personal Protective Equipment

72. The employer shall furnish employees, at no cost to employees, with personal protective equipment for the eyes, face, hands and feet, protective shields and barriers whenever necessary by reason of the hazardous nature of the process or environment, chemical or radiological or other mechanical irritants or hazards capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.

73. All personal protective equipment shall be of the approved design and construction appropriate for the exposure and the work to be performed.

74. The employer shall be responsible for the adequacy and proper maintenance of personal protective equipment used in the workplace and ensure employees use the personal protective equipment at all times while performing work.

75. The employer shall implement a thorough training program to ensure employees know the correct use and maintenance of their personal protective equipment.

76. No person shall be subjected or exposed to a hazardous environmental condition without protection.

77. The employer shall provide appropriate and suitable protective headwear devices, eyes and face protective

equipment, respirators, ear protectors, safety belts/harness, foot wears, special protective clothing and hand and arm protective devices, as per the probability of exposures to hazards as prescribed in the Schedule II of this Regulation but not limited to.

78. The personal protective equipment under Section 77 shall conform to appropriate American National Standards (ANSI) or Bureau of Indian Standards (BIS) or standards certified by National Institute of Occupational Safety and Health (NIOSH) or any standards developed by Government of Bhutan.

Penalty

79. The employer failing to comply with Sections 24 and 25 of this Regulation shall be liable to pay a penalty in accordance to the Chapter on Registration of Workplaces, Regulation on Working Conditions, 2022.

80. The employer who contravenes Sections 26 to 30, 39, 46 to 47, 50, 52, 54 to 55, 58, 60 to 63, 68 and 71 to 78 of this Regulation shall be liable to pay a fine of:

    (1) First instance: Ninety (90) times the Daily National Minimum Wage;

    (2) Second instance: One hundred and eighty (180) times the Daily National Minimum Wage; and

    (3) Third and repeated instances: Three Hundred and sixty (360) times the Daily National Minimum Wage.

Chapter 5
General Provisions Relating to Safety

General Provisions

81. Every workplace shall have adequate fire, emergency or danger signs and safety instruction of standard color and size visible at all times, in accordance with chapters or sections of this Regulation.

82. Good housekeeping shall be maintained at all times through cleanliness of work premises, machines, and equipment, proper storage and piling of materials, good process layout and regular disposal of waste.

Disposal of Wastes and Effluents

83. In any workplace as a result of workplace activities being carried out if any trade wastes or effluents are generated, the employer shall ensure that the trade wastes and effluents are rendered innocuous in accordance with the provisions contained in the relevant Water and Air Pollution Act or any other scheme in operation enforced by a relevant authority.

Building Structure

84. All buildings, permanent or temporary shall be structurally safe and sound to prevent from collapsing.

85. The roof shall be of sufficient strength to withstand strong wind in addition to abnormal weather conditions and where required to carry any loads.

86. The foundation and floors shall be of sufficient strength to sustain safe load for which they are designed and under no condition shall be overloaded.

Stumbling Hazards

87. The floors shall be sufficiently even to afford safe walking and transportation of materials.

88. Such floors shall be free from holes and splinters, improperly fitted gutters or conduits, protruding nails and bolts, projecting valves or pipes, or other projections or obstructions which create stumbling hazards.

Slipping Hazards

89. The floors, stair-treads and landings shall not be slippery under any condition.

90. The stairways, ramps, elevator platforms and similar places shall be provided with non-slip walkway surface.

Overhead Walks, Runways and Platforms

91. The walks, runways, working platforms or open sided floors 2 m or more above the floor or ground level shall be guarded on all open sides by standard railings and toe-boards except platforms used for motor or similar equipment.

92. For runways less than 56cm in width, railings shall be provided on both sides and for those more than 56 cm in width, the railing on one side may be omitted.

93. All runways of platforms constructed over conveyors or machinery shall be guarded on all open sides by standards railings and toe-boards.

94. In any workplace where equipment and machineries such as forklift, order pickers, powered pallet jacks, vehicles and cranes are used, the employer shall designate separate walkways and vehicular lanes.

Ladderway Floor Openings

95. The ladderway floor openings shall be guarded on all exposed sides, except at the entrance to the opening, by permanent railings and toe-boards. The passage through the railings shall be provided with a barrier or gate so arranged that a person cannot walk directly through the opening.

Stairway Openings

96. The stairway floor openings shall be guarded on all exposed sides by permanent railings and toe-boards, except the entrance to the stairway.

97. For infrequently used stairways where traffic across the openings prevents the use of permanent railings, the guards shall consist of flush-hinged covers of adequate strength equipped with railings attached thereto so as to leave only one side exposed when the covers are open. When the openings are not in use, the covers shall be closed or the exposed sides guarded.

98. The hatchway, chute, pit and trap door openings shall be guarded by:

    (1) removable railings with toe-boards on not more than two sides and permanent railings with toe-boards on all other exposed sides, or

    (2) flush-hinged covers as prescribed for stairway floor openings.

Window Openings

99. The window openings at stair landings, where the opening is more than 30cm in width and the sill is less than 1.9 m above the landing, shall be guarded securely by bars, slats, or grills to prevent persons from falling through.

Manholes and Other Openings

100. The manhole floor openings shall be guarded by manhole covers of adequate strength, which need not be hinged.

101. Other floor openings into which persons can accidentally walk shall be guarded either by permanent railings and toe-boards on all exposed sides or by hinged-floor opening covers of adequate strength.

102. When covers for openings in Sections 100 and 101 of this Regulation are not in place, the openings shall be constantly attended by someone or protected by portable enclosing railings.

103. The floor openings into which persons cannot accidentally walk on account of fixed machinery, equipment or wall, shall be guarded by covers having no openings more than 2.5cm in width securely held in place.

104. All wall openings less than 1 metre from the floor, having a height of at least 75cm and a width of at least 45cm from which there is a drop of more than 2 m shall be solidly enclosed or guarded by barriers capable of withstanding a load of at least 100kg applied in any direction at any point of the top rail or corresponding members except vertically upward.

105. All other wall openings, irrespective of their width shall, if their lower edge is either 8cm or less above floor level on the rear side and 2 m or more above ground or floor level on the far side, be guarded by:

    (1) a toe-board across the bottom of the opening, or

    (2) an enclosing screen either solid or of grills or slat work with openings not more than 2.5cm in width capable of withstanding a load of at least 50kg applied horizontally at any point.

Construction of Railings

106. All railings shall be permanently constructed of wood or pipe or structural metal or other material of sufficient strength.

107. Standard railings shall be at least 1 m from the floor level to the upper surface of the top rail.

108. Standard railings shall have posts not more than 2 m apart and an intermediate rail halfway between the top rail and the floor.

109. The dimensions of railings and posts anchorage and framing of members shall be such that the completed structure shall be capable of withstanding a load of at least 100kg applied from any direction to any point of the top rail.

110. Railings of the following types of construction shall be deemed to satisfy tests requirements:

    (1) **for wood railings:** The top rails and posts of at least 5cmx10cm stock and intermediate rails of at least 5cmx5cm or by 2cmx10cm stock, all such railings shall be smooth and free from large or loose knots, protruding nails or bolts, splinters, fins, slivers, or cracks;

(2) **for pipe railings:** The top rails and posts of metal pipes of at least 30mm diameter; and

(3) **for structural metal railings:** The top rails and posts of angle iron of at least 38mmx38mmx5mm and intermediate rails of angle iron of at least 32mm x 32mm x 3mm.

111. Railings shall be of sound materials free from defects and all sharp corners rounded and smoothed.

Construction of Toe-boards

112. The Toe-board shall be:

(1) at least 15cm in height;

(2) made of wood or iron or steel or other equivalent material; and

(3) securely fastened in place, with not more than 6mm clearance above the floor level.

Stairs

113. All stairs, platforms, and landing shall be of sufficient strength to sustain five times the anticipated live load but not less than 450 kg applied at any point.

114. All stairs to be provided with treads, risers and railings as per the following provisions:

(1) the minimum width of an internal staircase shall be 100cm;

(2) the minimum width of treads without nosing shall be 25cm for an internal staircase. The treads shall be constructed and maintained in a manner to prevent slipping;

(3) the maximum height of a riser shall be 19cm and the number of risers shall be limited to 12 per flight; and

(4) hand rails shall be provided with a minimum height of 100cm and shall be firmly supported.

Ladders

Fixed Ladders

115. All metal parts of fittings of ladders shall be made of steel, wrought iron, malleable cast iron or other materials of equivalent strength.

116. Fixed ladders shall be installed in the following manners:

(1) the perpendicular distance from the center line of the rungs to the nearest fixed object on the climbing side of the ladder is at least 90cm for a pitch of 75° and 75cm for a pitch of 90°;

(2) the distance from the back of the rungs to the nearest fixed object is at least 15cm; and

(3) except in the case of ladders equipped with cages, baskets, or equivalent guards, a clearance of 20cm from either side of the ladder to a fixed object shall be provided.

117. Fixed ladders used to ascend heights exceeding 9 m:

(1) shall be provided with landing platform for each 6 m or fraction thereof;

(2) the sections of the ladder shall be staggered, and

(3) if Section 117(1) or 117(2) is not practical, ladders equipped with cages, baskets, or equivalent guards shall be provided.

Portable Ladder

118. All portable ladders shall follow the four-to-one rule where in for every four feet of ladder height, the base shall be moved one foot away from the wall or structure.

119. The portable ladders shall be secured tightly to the ground or surface with anti-slip shoes.

120. Extension ladders shall extend at least 3 feet above the upper support level.

Manual Material Handling and Ergonomic Hazards

121. The employer shall:

(1) identify the hazards involved in manual material handling and must protect the employees from the risk of musculoskeletal disorders (MSDs) or injury and ill health from hazardous manual handling tasks in the workplace;

(2) conduct risk assessment of all workplaces and work processes where moving and handling of goods or repetitive tasks or the work being carried out in poor body postures requiring twisting, stooping, bending, prolonged seating or team handling could cause injury to bone, joints and muscles or other tissues usually in the upper and lower limbs or back;

(3) find means of making work easier, less risky and less physically demanding or alternative ways of working,

such as mechanically aided devices (pallet trucks, trolleys, conveyor belts and so on);

(4) ensure that employee(s) use the equipment provided to them for purposes;

(5) assess employees(s) individual physical capability before giving the task especially the employee with a known injury, impaired vision, reduced grip strength, pregnancy or disability or pre-existing health conditions; and

(6) ensure that the employees are trained in manual material handling, including good lifting techniques.

122. The employee shall:

(1) follow safe systems of work;

(2) make proper use of equipment provided for their safety;

(3) inform the employer if they identify hazardous manual handling activities; and

(4) take care to ensure their activities do not put themselves or others at risk.

Lifting and Carrying of Load

123. An employer shall ensure at a workplace that:

(1) no male employee lifts by hand or carries overhead or over his back or shoulders any material, article, tool or appliances exceeding over 50kg in weight and for female, over 25 kg;

(2) the weight of the load cannot be doubled for each extra person in the team. For example, for a lifting team of

two, the load should only be increased by two thirds of the total each person can lift.

Penalty

124. The employer who contravenes Sections 81 to 121 and 123 of this Regulation shall be liable to pay a fine of:

(1) First instance: Ninety (90) times the Daily National Minimum Wage;

(2) Second instance: One hundred and eighty (180) times the Daily National Minimum Wage; and

(3) Third and repeated instances: Three hundred and sixty (360) times the Daily National Minimum Wage.

Chapter 6
Working Environmental Control and Measurement

General Requirements

125. All workplaces where any employee at work is exposed to environmental conditions that may have adverse effects on health, the employer shall take effective measures to protect that person from such problems.

126. The health and safety measures for the environmental conditions under Section 125 of this Regulation, are to be implemented by the employer with cooperation of the employees.

Working Environment Measurement

127. The working environment measurement includes temperature, humidity, pressure, illumination, ventilation, and concentration of substances and noise.

128. The employer shall carry out the working environment measurement in the workplace where hazardous work is performed. The working environment measurement shall be performed periodically as may be necessary.

129. The copy of the working environment measurement record shall be kept in the workplace for inspection by the Labour Inspector.

130. The working environment measurement shall be performed by the Safety Officer or any competent person.

131. In the event of their inability to perform the working environment measurement, the employer shall commission the

other institutions or organizations accredited or recognized by the Department of Labour, to perform the measurement.

Illumination

132. All workplaces including passages/walkways shall be provided with adequate natural lighting or artificial lighting or both, suitable for the operation and the special type of work performed.

133. At every workplace, reasonably practicable measures shall be made to prevent:

(1) the glare, either directly from a source of light or by reflection from a smooth or polished surface; and

(2) the formation of the shadows to such an extent as to cause eye-strain or risk of accident to any employee.

134. Adequate artificial lighting for different operations of work shall be in accordance with the standard specified in Schedule III.

135. For measuring of illumination at the workplace, the luxmeters conforming to internationally recognized specifications, such as BS 667:2005, DIN 5032-7:1985 or CIE Publication 3 No. 69 (1987) , should be used.

Occupational Noise

136. The employer shall take all reasonably practicable measures to reduce or control noise from any machinery, equipment or process such that no person employed or working in the workplace is exposed to excessive noise.

137. The measures to be taken under Section 136 of this Regulation must include one or more of the following where appropriate:

(1) replacing noisy machinery, equipment or processes with less noisy machinery, equipment or processes;

(2) locating noise sources away from hard walls or corners;

(3) isolating noise sources such that a minimum number of persons employed or working in the workplace are exposed to the noise;

(4) constructing suitable acoustic enclosures to contain noise emitted by machinery, equipment or processes;

(5) erecting an effective noise barrier larger in size than the noise source to provide acoustic shielding;

(6) operating pneumatic machinery, equipment or tools at optimum air pressure to minimize noise emission and installing suitable pneumatic silencers at pneumatic line outlets;

(7) installing mufflers at intake and exhaust openings which emit noise;

(8) mounting vibrating machinery on vibration isolators or separate foundations;

(9) isolating persons employed or working in the workplace in an acoustically shielded room or enclosure, where reduction of noise at the noise source is not practicable;

(10) lining hard surfaces with acoustically absorbent materials to reduce noise reverberation;

(11) isolating or reducing the size and vibration of vibrating surfaces or applying damping materials to vibrating surfaces;

(12) reducing the height from which objects are allowed to fall or applying a resilient material at the point of impact or at the point of interaction of moving objects, or

(13) maintenance of machinery and equipment at regular intervals to reduce noise emission.

138. Where it is practicably not possible to reduce the noise, the employer shall limit the duration of noise exposure of the employees in accordance with standard specified in Schedule IV.

Permissible Exposure Limits for Noise

139. The employer shall take all reasonably practicable measures to ensure that a person exposed to noise level of more than 85dBA is not allowed to work without wearing ear plugs/ear muffs.

140. Permissible noise exposure:

(1) the values specified in Schedule IV apply to total time of exposure per working day regardless of whether this is one continuous exposure or a number of short-term exposures but does not apply to impact or impulsive type of noise;

(2) if the variation in noise level involves maximum intervals of one second or less, it shall be considered as continuous. If the interval is over one second, it becomes impulse or impact noise;

(3) when the daily noise exposure is composed of two or more period noise exposure of different levels, their combined effect should be considered rather than the effect of each. If the sum of the fraction

$$\{C1 /T1\}+\{C2/T2\} + \{C3/T3\}$$

exceeds unity, then the mixed exposure should be considered to exceed the permissible limit value C indicates the total time exposure at a specified noise level, and T indicates the total time of exposure permitted at the level. However, the permissible levels found in the schedule IV shall not be exceeded for the corresponding number of hours per day allowed. Noise exposure of less than 85dBA do not enter into the above calculations; and

(4) exposures to impulsive or impact noise shall not exceed 140dBA.

141. In all cases where the prevailing sound levels exceed the 8 hours TWA of 85 dBA, there shall be administered an effective hearing conservation program which shall include among other hearing conservation measures, pre-employment and periodical auditory surveys conducted on employee(s) exposed to noise exceeding the permissible levels, and rehabilitation of such employee(s) either by reducing the exposure to the noise levels or by transferring them to places where noise levels are relatively less or by any other suitable means.

142. Every employee working in areas where the noise level is more than 85dBA shall be subjected to an auditory

examination by a qualified medical professional at least once in every 6 months.

143. The records of such periodical medical examination shall be kept in a register and produced on demand to a Labour Inspector.

144. The employer shall provide suitable hearing protectors to all persons employed or working in the workplace who are exposed or are likely to be exposed to excessive noise and take steps to ensure that such protective devices are used at all necessary times.

145. In order to monitor the noise level in the workpalce, the sound level and noise dosimeter confirming to the ANSI Type 2 standards shall be used.

General Ventilation

146. An employer shall, so far as is reasonably practicable, ensure that every workplace is provided with adequate ventilation.

147. Where gases, vapours or other impurities are generated in the course of any process or work carried out in a workplace which may be injurious to health, the employer shall provide effective and suitable ventilation:

    (1) for securing and maintaining the circulation of fresh air in the workplace; and

    (2) to render harmless, so far as is reasonably practicable, all such gases, vapours or other impurities.

Vibration

148. In any workplace where employees are at work in any process or operation which involves exposure to vibration

which may constitute a risk to their health, the employer shall provide, so far as is reasonably practicable, effective means to reduce the vibration.

Harmful Radiation

149. The employer shall:

(1) Identify all sources of ionising and non-ionising radiation in workplace and the risks they pose;

(2) consider radon gas exposure as part of risk assessment which is naturally occurring and may be present in the workplace even if you don't do any other work with radiation;

(3) reduce any exposure to ionising and UV radiation, as far as reasonably practicable, and use safer alternative processes or equipment, such as ultrasonic, non-destructive testing instead of X-rays;

(4) provide and ensure appropriate shielding and personal protective equipment is used by employees to reduce exposure when working with ionising radiation;

(5) ensure that employees exposed to radiation undergoes the periodic medical examination and confirm to the permissible exposure limit set as per Table 1 of this Regulation;

(6) ensure that regular environmental monitoring is done for radiations;

(7) so far as is reasonably practicable, provide interlocks to prevent access into X-ray cabinets, laser enclosures or machinery containing lasers;

(8) ensure that only a competent or an authorized person is allowed to carry out the work involving radiation; and

(9) ensure that pregnant employees shall not be allowed to be exposed to any harmfull radiation.

Table 1: Dose limitations

Part of the body	Occupational Exposure	Public Exposure
Whole body (Effective dose)	20 mSv/year averaged over 5 consecutive years; 30 mSv in any single year	1 mSv/y
Lens of eyes (Equivalent dose)	150 mSv in a year	15 mSv/y
Skin (Equivalent dose)	500 mSv in a year	50 mSv/y
Extremities (Hands and Feet) Equivalent dose	500 mSv in a year	-

Heat Stress

150. At any workplace where activities such as operation of machinery or any processes that give rise to undue heat, the employer shall put suitable provisions to reduce the effect thereof on of any person employed to such extent that he/she may consider reasonable and practicable.

151. The employer shall take measures to create adequate air movement or cool the air or both in order to reduce the body temperature of any person employed in a workplace where the temperature is unduly high.

152. Without limiting to Section 151 of this Regulation, the employer shall:

(1) allow a minimum of two to three weeks' time for employees to acclimatize to hot working processes;

(2) establish a schedule for work and rest periods during hot days;

(3) ensure that employees are advocated on the signs and symptoms of heat stress disorders and remedial measure to be taken;

(4) provide appropriate PPE and ensure that employees use it at all times while at work;

(5) provide adequate supply of safe drinking water at a workplace regardless of whether the weather is hot or not; and

(6) prepare and implement a Heat Stress Prevention Program and conduct periodic monitoring of heat stress index in accordance to the heat index guidelines under this Regulation.

Cold Stress

153. The employer shall protect the employee(s) from cold stress hazards, that may or is likely to cause death or serious physical harm in the workplace.

154. The employer shall provide information, education and training on the possible cold stress hazards and prevention measures to be taken.

Penalty

155. The employer who contravenes the Sections 128 to 138, 140 to 154, of this Regulation shall be liable to pay a fine of:

(1) First instance: Ninety (90) times the Daily National Minimum Wage;

(2) Second instance: One hundred and eighty (180) times the Daily National Minimum Wage; and

(3) Third and repeated instances: Three hundred and sixty (360) times the Daily National Minimum Wage.

Chapter 7
Machineries and Machine Guarding

Machine Guarding Requirements

156. The employer shall provide and maintain proper machine guarding at all workplaces where any person at work is in direct contact with any machine part, function or process which may cause harm, injury or death.

157. The workspace(s) shall be designed according to the type of machines used, considering the associated risks and safety requirements of each machine.

158. All moving parts of prime movers, transmission equipment and all dangerous parts of driven machinery specified in the Schedule VI appended to this Regulation shall be effectively guarded, unless so constructed or located to prevent any person or object from coming or being brought into contact with them.

159. One or more methods of machine guarding shall be provided to protect the operator and other employees in the machine area from hazards such as those created by point of operation, ingoing nip points, rotating parts, flying chips and sparks. The methods of guarding include:

    (1) fixed guard

    (2) interlocking guard

    (3) automatic guard

    (4) trip guard

    (5) two-hand control device

160. Every guard or device used shall be:

(1) of substantial construction;

(2) maintained in an efficient condition, and

(3) kept in its proper position while the machinery or plant is in motion.

161. The machine guards shall be affixed to the machine where possible and secured elsewhere if for any reason attachment to the machine is not possible. The guard shall be such that it does not offer an accident hazard in itself.

Barrels, Continuous End Drums

162. Revolving drums, barrels, and containers shall be guarded by an enclosure which is inter-locked with the drive mechanism so that the barrel, drum or container cannot revolve unless the guard enclosure is in place.

Exposure of Blades

163. When the periphery of a fan is less than 7 feet above the floor working level, the blades shall be guarded. The guard shall have opened not larger than 1/2 inch.

Anchoring Fixed Machinery

164. The machines designed for fixed location shall be securely anchored to prevent walking or moving.

Built-in Safety

165. When ther employer orders machinery, machine parts or other working equipment, that employer shall specify in the order that such machinery, parts or equipment shall be provided with all the protective devices required by this

Regulation for any dangerous part thereof. In cases where it is impossible to anticipate the type of protective device required for special operations, such devices shall be obtained or provided as soon as possible.

166. Manufacturers, vendors and leaser of machinery, machine parts or other working equipment shall ensure that every article delivered, sold or let by them is provided with all the required protective devices.

167. The employer installing new machinery, machine parts or other working equipment, and persons or firms in charge of the installation of such machinery or parts of machinery and other working equipment shall ensure that these are properly guarded.

Point-of-Operation Guarding

168. The general requirement for machine guard at point of operation shall be in accordance to the following:

(1) the point of operation of machinery shall be effectively guarded;

(2) mechanical feeding and ejection devices shall be provided;

(3) individual starting and stopping devices shall be provided on every working machine having a cutting, drawing, grinding, pressing, punching, shearing or squeezing action to make it possible for the operator to start or stop the machine without leaving his/her working position.

Removal of Guards from Machinery

169. No employee shall willfully and without reasonable cause remove, render in-operative, misuse, rectify, damage or interfere with any guard or device provided in pursuance of this Regulation.

170. The employee shall report forthwith to the employer any fault or defect in any guard or device provided in pursuance to this Regulation.

171. The machine guards or other effective means used to render machinery safe may be removed to such extent as is necessary while the part of the machinery is in motion when:

    (1) any examination of the machinery or part of the machinery is necessary; or

    (2) any lubrication or adjustment shown by such examination to be immediately necessary, being an examination, a lubrication or an adjustment, which is necessary to be carried out while the part of machinery is in motion.

172. Section 171 shall apply only when the relevant examination, lubrication or other operation is carried out by a person who:

    (1) has attained the age of 18 years;

    (2) has been trained to carry out, and is acquainted with the dangers of moving machinery connected with the relevant examination, lubrication or other operation; and

    (3) is wearing tight clothing which has no loose ends.

173. The person conducting relevant examination, lubrication or any other operation shall not work in isolation. There shall be

another person immediately available in case of an emergency.

174. The ladder or work platform used for carrying out relevant examination, lubrication or other operation shall be securely fixed or lashed, or firmly held by a person stationed at the foot of the ladder.

Prime Movers

175. The flywheel and other prime movers shall be periodically inspected for cracks, incorrect adjustments and other defects by a competent person.

176. In areas where standard railings are used, the railings shall not be less than 380mm nor more than 500mm from the rim of the wheel. A standard toe-board shall also be provided.

177. When it is necessary to move flywheels for starting, guards may be removed temporarily but shall be returned immediately after starting is completed. A slot opening for jack bar is permitted.

178. Every jack bar shall be equipped with a hand stop so located that it will safely clear the flywheel guards when fully inserted but will prevent the employee's hand being pinched between the slot and bar.

179. Any protruding part of the flywheel shall be completely enclosed or surrounded by guard rails.

Governors

180. Centrifugal governors shall be guarded or enclosed in the same way as flywheels.

181. Fly ball governors located 2.1 m or less above the floor, platform or other working level having rotating, projecting or sectional parts or hazardous recesses shall be enclosed or covered with guard secured to rigid supports and accessible to oiling and inspection.

Collars and Couplings

182. Revolving collars and couplings shall be cylindrical and no screws or bolts shall project beyond the largest periphery. Couplings shall be enclosed by stationary guards.

Keys and Set Screws

183. Projecting keys, set screws and other projections in revolving parts of a machine not guarded by the frame of the machine or by location shall be removed, made flush or guarded by non-rotating metal caps.

Tail Rods

184. Tail rods extending in areas where persons work or pass shall be guarded.

185. If guardrails are used, the range shall be 50.8cm when the tail is fully extended.

Shafting

186. Shafts shall be completely enclosed 2.1 m from the floor.

187. Shafts under benches or floors shall be covered.

188. Exposed face ends of shafts over half the diameter of the shaft shall be guarded with non-rotating caps.

Belt and Pulley Drive

189. Any part of a horizontal belt and pulley drive, involving the use of flat crowned or flanged pulleys, which is 2.1 m or less above the floor or working level shall be guarded.

190. The distance between two pulleys, except in cases of tight and loose pulleys, shall be greater than the width of the belt.

191. Overhead belts over 2.1 m from the floor shall be guarded in its entire length if:

    (1) located over passageways or workplaces and running at speed of 20 km/hr or over;

    (2) center to center distance between pulleys is 3.05 m or more; and

    (3) belt is 200mm or more in width,the bottom and sides shall also be guarded.

192. When both runs of belts are 2.1 m or less from the floor, the belts shall be completely enclosed.

193. Where a group of flat belt drives is guarded by standard railing guard, such drives shall be considered guarded where the distance from the vertical plane of the rail to the nearest point of any belt or pulley is not less than 380mm nor more than 500mm and where the distance between any two adjacent belts or pulleys does not exceed 900mm.

194. Belt-type variable speed drives located 2.1 m or less from the floor or working level shall have all moving parts guarded.

195. Belts and shafting in workplaces where flammable liquids or vapours of explosives dusts are present shall be grounded or the accumulation of static electricity shall be controlled.

196. Pulleys with a speed of 400rpm shall be periodically inspected for defects.

Conveyors

197. Screw conveyors 2.1 m or less above floor or other working level shall be completely covered with substantial lids except that screw conveyors the top of which is 600mm or less above the floor or other working level, or below the floor level may be guarded by standard railing guards having toe-boards of mid-rail height or shall be guarded by substantial covers or gratings.

198. All belt conveyors head pulleys, tail pulleys, single tension pulleys and dip take-up pulleys shall be so guarded that the entire sides of the pulleys are covered and the guard shall extend in the direction of the run of the belt such a distance that a person cannot reach behind it and become caught in the nip point between the belt and the pulley.

199. Portable inclined conveyors shall have head and tail pulleys or sprockets and other power transmission equipment guarded accordingly.

200. Where necessary to pass over exposed chain, belt, bucket, screw or roller conveyors, such crossovers shall be bridged or catwalk properly equipped with standard railings and toe-boards and shall have safe means of access either fixed ladder, ramp or stairway.

201. Conveyors passing over areas that are occupied or used by employees shall be so guarded as to prevent the materials handled from falling on and causing injury to the employees.

202. Where employees pass under the return strands of chain conveyors a shallow trough or other effective means or sufficient strength to carry the weight of the broken chain shall be provided.

Gears and Sprockets

203. All power operated gears and sprockets wherever located shall be completely covered.

204. The chains, sprockets and chain drives located within 2.1 m of the floor or other working level shall be guarded in the same manner as the belts are.

Operating Control Safety

205. Clutches, cut-off couplings or clutch pulleys and other mechanical power control devices having projecting parts where any parts of such devices is located 2.1 m or less above the floor or working level shall be completely enclosed and such enclosure shall not interfere with the operation of the mechanical control.

206. Each process machine driven by an individual prime mover shall be equipped with emergency stopping devices which can be safely actuated from the operator's working position unless the machine is equipped with automatic clutch which will stop or disengage all machine operation.

207. Where an operator attends to one or more process machine not having individual drive, each machine shall be equipped with a stopping device which can be safely actuated from the

operator's working position at the machine, such a stopping device may stop an entire group of machines by stopping the prime mover, power transmission or it may be a machine clutch, cut-off coupling or tight and loose pulley with belt shifter which can stop all the machine operations at any time on any machine. Pole or hand shifting of belts is not considered adequate means for disconnecting the power.

Exception: Where due to the process, machine must be operated in groups, the machine power control may stop the entire group of machines, such group drives shall be provided with conveniently located readily accessible, and properly marked or otherwise identified emergency stop device.

208. Where practicable each process machine simultaneously attended or operated by more than one employee shall be equipped with a machine power control for each employee exposed to point of operation hazards. Said controls shall be interlocked in a manner to prevent operation of machine unless all controls are operated simultaneously.

209. Machine power controls shall be maintained in safe operating conditions and shall be so designed, installed and or located so that they are not likely to operate from accidental contact with objects or parts of the body.

210. Controls for motor switches, friction clutches, belt shifters, engine stops and similar machine parts shall be available at the point of operation.

Guarding Mechanical Power Presses, Foot and Hand Power Presses

211. Guards for mechanical power, foot and hand power presses other than what is provided in this Regulation may be

acceptable provided they afford equal protection to the employees.

212. Automatic, semi-automatic or mechanical feed presses:

Fixed guards or enclosures - a fixed guard or enclosure shall be so arranged and equipped to guard the front and both sides to prevent the operator's fingers from reaching the danger zone. However, said fixed guards may not be required where access to the danger zone by the operator is not possible or necessary.

213. Hand and foot power presses:

(1) **Fixed guard or enclosure** - a fixed guard or enclosure across the front and shall be so arranged that the finger cannot be inserted under, over, through or around the guard. The guard may be an integral part of the die or attached to the press frame;

(2) **Interlocking gate guard** - a guard or gate operated by a tripping device, which will not permit the "press to operate" until the hands of the operator have been removed from the danger zone;

(3) **Limited ram travel** - the stroke of the ram or plunger shall be such that the clearance between the ram and the plunger and die or the stripper should be less than 10mm;

(4) **Swept guard** - a mechanically operated guard should be padded to prevent injury of hand;

(5) **Pull-out protective device** - a mechanically operated device attached to the operator's hands, wrist or arms

which withdraws the operator's hands from the danger zone as the ram descends;

(6) **Two handed trip device** - an arrangement whereby hands are used instead of feet to trip the press: the simultaneous and continuous action of both hands being required.

Pedal or Treadle Guards

214. Pedals or treadles of foot actuated presses shall be provided with substantial guards to prevent accidental tripping. For treadles other than long bars extending across the machine, the openings in such guards shall not be more than twice the width of the foot.

Special Hand Tools

215. Where necessary, special hand tools such as pushers, pickers, pliers, tweezers, forks, magnets, or suction discs shall be provided for feeding or removing materials without placing hands in the danger zone.

Hoists and Lifts

216. Every hoist and lift shall be:

(1) of good mechanical construction, sound material, adequate strength and free from defects; and

(2) properly maintained, and shall be thoroughly examined by a competent person at least once in every period of six months, and a register shall be maintained to record particulars of examination of hoists or lifts and shall give particulars as shown in Form 5 appended to this Regulation.

217. Every hoist way and lift way shall be sufficiently protected by an enclosure fitted with gates, and the hoist and lift and every such enclosure shall be so constructed as to prevent any person or thing from being trapped between any part of the hoist or lift and any fixed structure or moving part:

(1) the maximum safe working load shall be plainly marked on every hoist or lift;

(2) the cage of every hoist or lift used for carrying persons shall be fitted with a gate on each side from which access is afforded to a landing; and

(3) every gate shall be fitted with interlocking or other efficient device to secure that the gate cannot be opened except when the cage is at the landing and the cage cannot be moved unless the gate is closed.

Lifting Machines, Chains, Ropes and Lifting Tackles

218. In any workplace, all parts including the working gear whether fixed or movable of every lifting machine (other than a hoist and lift), chain, rope and lifting tackle used for the purpose of raising or lowering persons, goods or materials shall be:

(1) of good construction, sound material, adequate strength and free from defects;

(2) properly maintained; and

(3) thoroughly examined by a competent person at least once in every period of twelve months, and a register shall be kept containing the prescribed particulars of every such examination. The register shall be kept readily available for inspection.

219. The register to be maintained under Section 218(3) of this Regulation should include:

(1) name of owner of the workplace;

(2) address of the workplace;

(3) distinguishing number of marks, if any, and description sufficient to identify the lifting machine, chain, rope, or lifting tackle;

(4) date when the lifting machine, chain, rope or lifting tackle was first taken into use in the workplace;

(5) date and number of the certificate relating to any test and examination made together with the name and address of the person who issued the certificate;

(6) date of each periodical thorough examination made under Section 218(3) of this Regulation and by whom it was carried out;

(7) date of annealing or other heat treatment of the chain and other lifting tackle made under Section 222 and by whom it was carried out; and

(8) particulars of any defects affecting the safe working load found at any such through examination or after annealing and the steps taken to remedy such defects.

220. All rails, on which travelling crane moves and every track on which the carriage of a transporter or runway moves shall be of proper size, adequate strength and have an even running surface and every such rail or track shall be properly laid, adequately supported and properly maintained.

221. While any person is employed or working on or near the wheel track of a travelling crane in any place where he is likely to be struck by the crane, effective measures shall be taken to ensure that the crane does not approach within 6 m of that place.

222. All chains and lifting tackle, except a rope sling, unless they have been subjected to such other heat treatment shall be effectively annealed under the supervision of a competent person at the following intervals:

    (1) all chains, sling rings hooks, shackles and swivels used in connection with molten metal or molten slag or when they are made of half inch bar or smaller, once at least in every six months; and

    (2) all the chains, rings, hook shackles and swivels in general use once at least in every 12 months.

223. Chains and lifting tackle not in frequent use shall be annealed only when necessary. Particulars of such annealing shall be entered in a register prescribed under Section 219.

224. Section 222 shall not apply to the following clauses of chains and lifting tackles:

    (1) chains made of malleable cast iron;

    (2) plate link chains;

    (3) chains, rings, hooks, shackles and swivels made of steel or any non-ferrous metal;

    (4) pitched chains working on sprocket;

    (5) rings, hooks, shackles and swivels permanently attached to pitched chains, pulley blocks or weighing machines;

(6) hooks, and swivels having screw threaded parts or ball bearing or other case-hardened parts; and

(7) socket shackles secured to wire ropes by white metal capping.

225. Such chains and lifting tackle shall be thoroughly examined by a competent person at least once in every twelve months, and particulars entered in the register kept in accordance with Section 219.

226. No lifting machine and chain, rope or lifting tackle shall be loaded beyond the safe working load, except for the purpose of testing.

Revolving Machinery

227. In every workplace in which the process of grinding is carried on, there shall be permanently affixed to or placed near each machine in use a notice indicating the maximum safe working peripheral speed of every grindstone or abrasive wheel, the speed of the shaft or spindle upon which the wheel is mounted, and the diameter of the pulley upon such shaft or spindle necessary to secure such safe working peripheral speed.

228. The speeds indicated in notices under Section 227 of this Regulation shall not be exceeded.

Penalty

229. The employer who contravenes Sections 156 to 169, 171 to 222, 224 to 228 of this Regulation shall be liable to pay a fine of:

(1) First instance: Ninety (90) times the Daily National Minimum Wage;

(2) Second instance: One hundred and eighty (180) times the Daily National Minimum Wage; and

(3) Third and repeated instances: Three hundred and sixty (360) times the Daily National Minimum Wage.

Chapter 8
Electrical Safety

General Requirements

230. All electrical supply lines, switches, conductors and apparatus shall be of sufficient rating for power, insulation and estimated fault current and shall be constructed, installed, protected, worked and maintained in such a manner as to ensure safety of all employees.

231. All circuits and apparatus shall be arranged in such a way that they do not get accidentally charged to any voltage beyond their limits.

232. Overhead lines of different voltage installed on the same support, shall be segregated, arranged and protected in such a way that they do not come in contact with each other.

Insulation and Protection of Conductors

233. The material and apparatus used shall conform to the relevant specification prescribed under the Electricity Act of Bhutan, 2001 and if there is no standard then the concerned department shall frame their specification for apparatuses, materials and type of works.

234. All live parts of the apparatus shall be protected against accidental personal contact either by design and construction of the apparatus or by the manner of its installation.

Construction of Switches, Circuits Breakers etc.

235. Every switch, switch fues, circuit breaker and isolating link shall be:

(1) constructed, placed and protected so as to prevent electrical hazards;

(2) constructed and adjusted accurately so as to make and maintain effectual contact;

(3) provided with a handle or other suitable means of working, insulated from the system and arranged so that the person operating it is unlikely to make accidental contact with live parts and terminal points;

(4) constructed and installed in such manner so that it cannot with proper care left in partial contact with live metal;

(5) ensure that when the switch is in "off" position, the electric supply to the equipment, circuits, apparatus are completely cut off and are not left in partial contact with the live parts and terminal points; and

(6) be installed in such a manner to prevent electrical hazard from arcing and scattering of fusible metal outside the switch box during blowing of fuse.

Protection of Circuits by Fuse and Circuit Breakers

236. Every circuit shall be protected against excess current and energy by means of a suitable fuse or circuit breaker of adequate breaking capacity suitably located and of such construction as to prevent an electrical hazard from overheating, arcing, or the scattering of hot metal or other substance when it comes into operation.

237. Every fuse and circuit breaker shall be capable of breaking the maximum prospective excess current or energy at the point of installation and every switch intended to be used for breaking under load shall be capable of breaking the load

at the point of installation without causing an electrical hazard.

Construction of Joints and Connections

238. Every electrical joint and connection shall be of proper construction and design as regards to conductivity, insulation, mechanical strength and protection.

239. There should not be more than 2 joints in any conductor of any span of the overhead line.

Construction of Switchboards

240. The construction and installation of a switchboard shall comply with the following:

(1) adequate access can be obtained to any component part which may have to be adjusted or handled;

(2) the location, course and continuity of every conductor may, where necessary be readily identified and traced;

(3) every conductor arranged for connection to a separate system is located and kept apart and may where necessary be readily distinguished; and

(4) every bare conductor is protected against accidental short circuit liable to cause electrical hazard.

Enclosure of Bare Conductors on Switchboards

241. Where there is a live or normally exposed bare conductor in a switchboard, the switchboard shall either be enclosed or fenced off so as to prevent people from coming into contact with the live metal.

Starting and Stopping of Electric Motors

242. Every electric motor or machine driven by electric motor shall be controlled by a switch fuse unit or circuit breaker or a starter of adequate breaking capacity for starting and stopping, and shall be so placed as to be readily accessible to and easily operated by the person in charge.

243. Every electric motor shall be equipped with such efficient means so that when stoppage occurs may be due to fluctuation in supply voltage or failure of electric supply or overloading, the motor will not restart automatically in any circumstances, wherein restarting is likely to cause electrical hazard or any other danger.

Cables for Portable or Transportable Apparatus

244. Flexible cables shall not be used for portable or transportable motors, generators, transformer rectifiers, electric drill, electric sprayers, welding sets or any other portable or transportable apparatus unless they are heavily insulated and adequately protected from mechanical injury.

245. Where the protection is by means of metallic covering, the covering shall be in metallic connection with the frame of any such apparatus and earth.

246. The cables shall be three core type and four core type for portable and transportable apparatus working on single phase and three phase supply respectively and the wire meant to be used for ground connections shall be identifiable.

Medium, High or Extra-high Voltage Installations

247. The following provisions shall be observed where energy at medium, high or extra-high voltage is supplied, converted, transformed or used:

(1) all conductors (other than those of overhead lines) shall be completely enclosed in mechanically strong metal casting or metallic covering which is electrically and mechanically continuous and adequately protected against mechanical damage unless the said conductors are accessible only to an authorized person or are installed and protected in such a manner so as to prevent danger;

(2) provided that non-metallic conduits conforming to the relevant strength and specifications may be used for medium voltage installation; and

(3) all metal works, enclosing, supporting or associated with the installation, other than that designed to serve as a conductor shall be connected with an efficient earthing system.

Precautions to be Taken against Metal becoming Live

248. Where necessary to prevent electrical hazard, adequate precautions shall be taken either by earthing or other suitable means to prevent any metalwork, other than the current-carrying conductors, enclosing or supporting any such conductors, from becoming live.

Persons Working on Electrical Apparatus

249. When work has to be carried out on any conductor, apparatus or switch board adequate precaution shall be

taken including the prevention of any conductor or apparatus becoming accidentally live, so as to ensure that the work may be carried out without undue risk from electrical hazard.

250. No person shall work on any live electric supply line or apparatus and no person shall assist such person on such work, unless they are authorized on that behalf, and takes the adequate safety precautions to prevent any hazard.

251. Every telecommunication line on supports carrying a high or extra-high voltage line shall, for the purpose of working thereon, be deemed to be a high voltage line.

Provision and use of Protective Equipment, Stands, Screens, Boots and Gloves

252. Portable insulating stands, screens, mats and covers and insulating boots, gloves or other protective equipment shall be provided and maintained in good condition for use where necessary as a protection against electrical hazard.

253. Fire buckets filled with clean dry sand and ready for immediate use for extinguishing fires, in addition to Class 'C' fire extinguishers suitable for dealing with electric fires, shall be conspicuously marked and kept in all generating stations.

254. Every person working on the apparatus shall make proper use of any equipment provided under Section 252.

Provision of Access to and Working Space for Apparatus

255. All apparatus which, in normal use, requires operation or attention by any person shall be installed so that adequate access and working space are afforded for its operation and attention, without electrical hazard.

Illumination at Workplace

256. Adequate illumination shall be provided in all parts of the premises where apparatus, in normal use, is installed for proper visibility and healthy work environment.

Precautions for Special Conditions

257. All apparatus and conductors:

(1) exposed to weather, water, corrosive atmospheres or other adverse conditions; or

(2) exposed to flammable surroundings or explosive atmosphere; or

(3) used in any process or for any special purpose other than for lighting or power;

shall be so constructed, installed and protected as may in the circumstances of such exposure or use be necessary to prevent electrical hazard or other danger.

Caution Notices

258. Where necessary, as a precaution against electrical hazards, a caution notice in Dzongkha and English shall be placed and displayed in visible position at, on or near such apparatus that are operating at high voltage as per the standards set in Sections 68 to 71 of this Regulation.

Qualifications and Supervision of Persons Carrying out Work

259. The authorized person shall carry out or assist in carrying out of any work on any apparatus where technical or practical knowledge is required to avoid electrical hazard.

Display of Notices on the Treatment for Electrical Shock

260. The employer shall display a notice in Dzongkha and English as to the steps to be followed in the treatment of a person who receives an electric shock, such notice to be displayed in all parts of the premises where electricity is generated, transformed, or used and at such other places in those premises as directed by a Labour Inspector.

Sub-stations

261. Every sub-station shall be of proper construction and design and all apparatus therein shall be so located, protected or screened as to be inaccessible to all unauthorized persons and secure against interference from outside the sub-station and shall be maintained in a dry condition and provided with efficient means of ventilation.

262. Cable trenches inside the sub-stations and switch stations containing cables shall be filled with sand, pebbles or similar non- inflammable materials or completely covered with non-inflammable slabs.

263. Every sub-station shall be under the charge and control of an authorized person. No person other than the authorized person or a competent person acting under the supervision of the authorized person shall be allowed in any part of the sub-station.

264. The caution notice both in Dzongkha and English shall be placed and displayed in visible positions at the entrance of restricted parts of the sub-station.

Safe Access to Underground Sub-stations

265. Every underground sub-station not otherwise easily or readily accessible shall be provided with adequate means of access by a door or trap door with a staircase or ladder securely fixed and so placed so that no person can make accidental contact with any live part of any switchboard or any bare conductor therein.

Earthing (Overhead Lines)

266. All metal supports and all reinforced and prestressed cement concrete supports of overhead lines and metallic fittings attached thereto shall be permanently and efficiently earthed.

267. Overhead electrical conductors shall at all times have minimum clearance above ground level in accordance with safety code issued by Bhutan Electricity Authority.

Penalty

268. The employer who contravenes any Section of this Chapter shall be liable to pay a fine of:

(1) First instance: Ninety (90) times the Daily National Minimum Wage;

(2) Second instance: One hundred and eighty (180) times the Daily National Minimum Wage; and

(3) Third and repeated instances: Three hundred and sixty (360) times the Daily National Minimum Wage.

Chapter 9
Chemical Safety

Hazardous Substances

269. The employer shall:

(1) ensure that employees are not exposed to chemicals to an extent which exceeds PEL or other exposure criteria established by a competent authority;

(2) assess the exposure of employees to hazardous chemicals;

(3) monitor and record the exposure of employees to hazardous chemicals; and

(4) ensure that the record of the monitoring of the working environment of the exposure of employees using hazardous chemicals are kept for not less than 5 years and are accessible for Labour Inspectors and employees.

270. Use of any material or a product containing asbestos at workplace is prohibited.

271. Adequate warning notices in Dzongkha and English specifying the nature of the danger of the hazardous substances shall be placed where the hazardous substances are used or present:

(1) at all entrances to any workroom, and

(2) at appropriate locations.

272. Persons at work in a workplace who are likely to be exposed to hazardous substances shall be warned of the hazards involved and precautionary measures to be taken.

273. All hazardous substances in a workplace shall be kept, stored, used, handled or disposed of in such a manner as not to pose a risk to the health and safety of any person in the workplace.

274. The employer shall maintain a register for hazardous chemicals used at a workplace. The hazardous chemical register shall also include Safety Data Sheet to be used by the employees.

Warning Labels

275. The employer shall, so far as is reasonably practicable, ensure that any container of hazardous substances is affixed with one or more labels that:

    (1) are easily understood by all persons at work in the workplace;

    (2) warn of the hazards involved with the hazardous substance in the container; and

    (3) specify the precautionary measures to be taken when dealing with the hazardous substance in the container.

Chemical Reaction and Risk of Thermal Runaway

276. In any workplace where chemical processes are carried out, the employer shall identify hazards and ensure its safe operation.

277. The employer shall ensure that, while performing any kind of work involving chemical processes or use of chemicals such as hot, toxic, reactive or explosive chemicals, the release of such chemicals during exothermic chemical reactions is prevented.

278. The employer shall ensure that sufficient systems are in place to reduce the risk of a chemical runaway to a level that is as low as reasonably practicable.

279. The competent personnel shall carry out periodic risk-assessments of chemical reaction hazards before performing work involving the use of chemicals.

280. In case of a chemical runaway, the adequate measures such as emergency relief vents and quenching fluids must be in place to ensure safe containment and dumping of the chemicals.

Globally Harmonized System

281. The employer shall adopt the Globally Harmonized System to identify the hazards caused by chemicals and apply safety precautions while handling toxic chemicals.

Safety Data Sheet

282. Where any hazardous substance is used, handled or stored in a workplace, the employer shall:

    (1) obtain a chemical safety data sheet of the substance;

    (2) assess the information in the chemical safety data sheet and take precautionary measures to ensure the safe use of the substance;

    (3) the safety data sheet should provide accurate and adequate information on the hazardous substance in the format prescribed in Schedule VII appended to this Regulation; and

(4) make available the chemical safety data sheet to all persons at work in the workplace who are likely to be exposed to the substance.

283. The employer shall provide chemical safety training to all employees who are using or being exposed to the chemicals in that workplace.

Protection Relating to Tanks, Structures, Sumps or Pits Containing Dangerous Substances

284. Where any tank, structure, sump or pit in a workplace contains any scalding, burning, corrosive or toxic liquid and the edge of the tank, structure, sump or pit is less than 1 metre above the highest ground or platform from which a person might fall into it, the employer shall ensure that:

(1) the tank, structure, sump or pit is securely covered or is securely guarded to a height of at least 1metre above that ground or platform, or

(2) where by reason of the nature of the work, neither secure covering nor secure guarding to that height is practicable, all reasonably practicable steps are taken by covering, guarding or other means to prevent any person from falling into the tank, structure, sump or pit.

285. Where any tank, structure, sump or pit in a factory contains any scalding, burning, corrosive or toxic liquid but is not securely covered, the employer shall ensure that no ladder, stair or gangway is placed above, across or inside it unless the ladder, stair or gangway is:

(1) at least 500mm wide, and

(2) securely guarded to a height of at least 1metre and securely fixed.

286. Where any such tank, structure, sump or pit in a workplace referred to in Section 284 adjoins another tank, structure, sump or pit, and the space between them, is less than 500mm in width, or each tank, structure, sump or pit is not securely guarded to a height of at least 1metre, the employer shall ensure that secure barriers are so placed as to prevent passage between them.

287. For the purpose of Section 284 to 286, a ladder, stair or gangway shall not be considered to be securely guarded unless it is provided either with sheet guarding or with an upper and a lower rail and toe-boards.

288. The employer shall ensure that appropriate warning signs are affixed to the tank, structure, sump or pit in the workplace to indicate any possible danger.

Toxic Dust, Fumes or Other Contaminants

289. Where any process or work carried on in any workplace is likely to produce or give off any toxic dust, fumes or other contaminants, the employer shall provide all reasonably practicable measures to:

(1) prevent their accumulation in the workplace; and

(2) protect persons at work in the workplace against inhalation of dust, fumes or other contaminants.

290. The measures to be taken under Section 289 of this Regulation shall, where appropriate, include one or more of the following:

(1) carrying out the process or work in isolated areas where persons not connected with the process or work are prohibited from being present;

(2) carrying out the process or work in closed vessels or systems to prevent persons at work in the workplace from coming into contact with the dust, fumes or other contaminants;

(3) providing adequate ventilation to dilute the dust, fumes or other contaminants;

(4) providing local exhaust ventilation to remove the dust, fumes or other contaminants at their sources of emission; and

(5) adopt wet method wherever possible and applicable.

291. The local exhaust ventilation system referred to in Section 290(4) shall be so designed, constructed, operated and maintained that the dust, fumes or other contaminants are safely and effectively removed at the source of generation and are not dispersed or scattered in the surrounding air.

292. Accumulation of toxic dust or waste on the floors, walls, work benches or other surfaces in any workplace shall be removed by washing, vacuum cleaning or other suitable means in a manner that will not make the dust or waste airborne.

293. No stationary internal combustion engine shall be used unless provision is made for conducting the exhaust gases from the engine into the open air.

294. The atmosphere of any place of work in which toxic substances are manufactured, handled, used or given off shall be tested at sufficient intervals to ensure that toxic dust,

fumes, gases, mists or vapours are not present in quantities liable to injure the health of persons at work.

295. Notwithstanding Section 290 of this Regulation, the Chief Labour Administrator may, by order in writing, require the employer:

(1) to monitor, test or assess the environment of any workplace for potential health hazards; and

(2) to take air samples in the breathing zone of the persons who are exposed to dust, fumes or other contaminants by using appropriate personal sampling equipment.

296. The record of the result of every test carried out under Sections 294 and 295 of this Regulation shall be kept available for inspection by the Labour Inspector for at least 5 years from the date of the test or such other period as the Chief Labour Administrator may specify in writing.

297. Sections 153, 154, 294 and 295 of this Regulation shall not apply to any workplace where:

(1) it is impracticable to comply with such requirements, and

(2) where suitable air-supplied breathing apparatus is used by every person at the workplace.

298. The air-supplied breathing apparatus used under Section 297(2) of this Regulation shall be supplied with air:

(1) of a temperature and humidity comfortable for breathing, and

(2) which has been suitably treated to remove particles of any material, oil mist, vapour, odour, carbon monoxide and carbon dioxide.

Permissible Exposure limites for Toxic Substances

299. The employer shall take all reasonably practicable measures to ensure that no person at work is exposed to the toxic substances in excess of the permissible exposure limit specified in Schedule V.

300. Where the PEL (Short Term) of a toxic substance is not specified in Schedule V, the PEL (Short Term) of the substance shall be deemed to be exceeded if the TWA concentration of the substance measured over a 15-minute period during any working day exceeds 5 times the PEL (Long Term) of that substance as specified in that schedule.

301. Where there is exposure to more than one toxic substance at the same time and the substances have similar harmful effects, the permissible exposure limits shall be deemed to have been exceeded if the sum of the ratios between the TWA concentration and the permissible exposure level of each substance exceeds one.

Penalty

302. The employer who contravenes any Section of this Chapter shall be liable to pay a fine of:

(1) First instance: Ninety (90) times the Daily National Minimum Wage;

(2) Second instance: One hundred and eighty (180) times the Daily National Minimum Wage; and

(3) Third and repeated instances: Three hundred and sixty (360) times the Daily National Minimum Wage.

Chapter 10
Hazardous Processes in Different Industries

Foundries and Alloy Casting

For the purpose of this chapter:

"Manipulation' means crushing, breaking, chipping, dressing, grinding, sieving, mixing, grading or handling of stone or any other material containing free silica or any other operation involving such stone or material.

"Stone or any other material containing free silica" means a stone or any other solid material containing not less than 5% by weight of free silica.

Manual Operations involving Molten Metal

303. There shall be provided and properly maintained for all persons employed on manual operations involving molten metal with which they are likely to be splashed, a working space for that operation which:

    (1) is adequate for the safe performance of the work, and

    (2) so far as reasonably practicable, is kept free from obstruction.

304. Any operation involving the carrying by hand of a container holding molten metal shall be performed on a floor, where any person walks while engaged in the operation shall be on the same level.

Gangways and Pouring Aisles

305. At every workplace to which this section applies, sufficient and clearly defined main gangway pouring aisles shall be provided and properly maintained which:

(1) shall have an even surface of hard material and shall, in particular, not be of sand or have on them more sand than is necessary to avoid risk of flying metal from accidental spillage;

(2) shall be kept, so far as reasonably practicable, free from obstruction; and

(3) if molten metal is carried in crane, trolley or truck ladles, shall be of a width, adequate for the same performance of the work.

Work near Cupolas, Furnaces and Scrap Charging

306. No person shall carry out any work within a distance of 4 m of any spout of a cupola or furnace or within a distance of 2.4 m from any ladle which is in position at the end of such a spout.

307. It should be ensured before charging the scrap that is free from dampness and hazardous substances.

308. The employees engaged in sorting out and handling the scrap should be provided with metal reinforced (stapled) hand gloves, safety shoes and safety goggles.

309. Sorting out of the scrap should be done by experienced employees who should be made aware of the dangers which are likely due to entry of hazardous impurities and items into the furnace. This work should be done under strict supervision

and it should be ensured that the scrap before being set to charging platform is free from moisture and other hazardous impurities and items.

310. Induction furnaces should be provided with mechanical charging system. Charging may be done by a crane and bucket.

311. The charging platform of each induction furnace should be provided with two stairways one for routine working and the other as an emergency stairway. The stairways should be provided with railings which should be properly fitted and always kept in perfectly maintained condition.

312. Repair jobs should be attended to only after melting is over and the furnace has cooled down.

Washing Facilities, Cloak Room and Mess Room

313. There shall be provided and maintained in clean state and good repair for the use of all employees employed in the foundry:

(1) washing facilities in accordance with the provisions contained in this Regulation;

(2) a cloak room with lockers for each employee where they can keep their street as well as work clothing; and

(3) a mess room furnished with tables and benches with means for warming food, provided where a canteen exists for the employees to take their meals, the requirement of mess room shall be dispensed with.

Disposal of Dross and Skimming

314. Dross and skimming removed from molten metal or taken from a furnace shall be placed within suitable receptacles.

Disposal of Waste

315. Appropriate measures shall be taken for the disposal of all waste products (including waste burnt) as soon as reasonably practicable after the castings have been knocked-out.

Manipulation of Stone or any Other Material Containing Free Silica

316. Section 317 shall apply to all workplaces or parts of work places in which manipulation of stone or any other material containing free silica is carried on.

Precautions in Manipulation

317. No manipulation shall be carried out at a workplace unless one or more of the following measures, namely:

(1) damping the stone or other material being processed;

(2) providing water spray;

(3) enclosing the process;

(4) isolating the process, and

(5) providing localized exhaust ventilation.

are adopted so as to effectively control the dust at any workplace where any person is employed, at a level equal to or below the maximum permissible level for silica dust as laid down in Schedule V appended to this Regulation.

Explosive or Inflammable Dust, Gas, etc

318. In a workplace where any dust, gas, fume or vapour of such character and to such extent as to be likely to explode if ignition is produced, all practicable measures shall be taken to prevent any such explosion by:

    (1) effective enclosure of the plant or machinery used in the process;

    (2) removal or prevention of the accumulation of such dust, gas, fume or vapour; and

    (3) exclusion or effective enclosure of all possible sources of ignition.

319. Where the plant or machinery used in a process in Section 318 of this Regulation is not so construed as to withstand the probable pressure which such an explosion as aforesaid would produce, all practicable measures shall be taken to restrict the spread and effects of the explosion by the provision in the plant or machinery of chokes, baffles, vents or other effective appliances.

320. Where any part of the plant or machinery in a workplace contains any explosive or inflammable gas or vapour under pressure greater than atmospheric pressure, that part shall not be opened except in accordance with the following provisions, namely:

    (1) before the fastening of any joint of any pipe connected with the part or the fastening of the cover of any opening into the part is loosened, any flow of the gas or vapour into the part or any such pipe shall be effectively stopped by a stop-valve or means;

(2) before any such fastening as aforesaid is removed, all practicable measures shall be taken to reduce the pressure of the gas or vapour in the part or pipe to an atmospheric pressure;

(3) where any such fastening as aforesaid has been loosened or removed effective measures shall be taken to prevent any explosive or inflammable gas or vapour from entering the part or pipe until the fastening has been secured, or, as the case may be, securely replaced;

(4) Provided that the provisions of Section 320 shall not apply in the case of plant or machinery installed in the open air.

321. No plant, tank or vessel which contains or has contained any explosive or inflammable substance shall be subjected in any workplace to any welding, brazing, soldering or cutting operation which involves the application of heat unless, adequate measures have first been taken to remove such substance and any fumes arising from there or to render such substance and fumes non-explosive or non-inflammable, and no such substance shall be allowed to enter such plant, tank or vessel after any such operation until the metal has cooled sufficiently to prevent any risk of igniting the substance.

Dust and Fumes

322. Open coal, coke or wood fires shall not be used for heating or drying ladles inside a work-room unless adequate measures are taken to prevent, so far as practicable, fumes or other impurities from entering into or remaining in the atmosphere of the work-room.

323. No open coal, coke or wood fires shall be used for drying moulds except in circumstances in which the use of such fires is unavoidable.

324. Mould stoves, core stoves and annealing furnaces shall be so designed, constructed, maintained and worked as to prevent, so far as practicable, offensive or injurious fumes from entering into any work-room during any period when a person is employed therein.

325. All knockout operations shall be carried out:

(1) in a separate part of the foundry suitably partitioned off, being a room or part in which, so far as reasonably practicable, effective and suitable local exhaust ventilation and adequate general ventilation are provided; or

(2) in an area of the foundry in which, so far as reasonably practicable, effective and suitable local exhaust ventilation is provided or where compliance with this requirement is not reasonably practicable, adequate general ventilation is provided.

326. All dressing or fettling operations shall be carried out:

(1) in a separate room or in a separate part of the foundry suitably partitioned of; or

(2) in an area of the foundry set apart for the purpose, and shall, so far as reasonably practicable, be carried out with effective and suitable local exhaust ventilation or other equally effective means of suppressing dust, operating as near as possible to the point of origin of the dust.

Maintenance and Examination of Exhaust Plant

327. All ventilator plants used for the purpose of extracting, suppressing or controlling dust or fumes shall be properly maintained.

328. All ventilating plants used for the purpose of extracting, suppressing or controlling dust or fumes shall be thoroughly examined and tested by a competent person at least once in every period of twelve months; and particulars of the results of every such examination and test shall be entered in a register which shall be available for inspection by a Labour Inspector.

Explosives and Blasting other than Construction Work

329. At any workplace, the employer shall ensure that no explosives or blasting agents are stored, handled, transported or transferred unless registered and authorized to do so by a relevant authority.

330. Where explosives are used and handled, and blasting operations are carried out in mining and quarries, the employees and other persons are protected in accordance with the "*Mines and Minerals Management Act of Kingdom of Bhutan, 1995*", or in the absence of the provisions in the mining Act, the provision set in the "*Regulation on Occupational Health and Safety for the Construction Industry, 2022*" shall apply.

Penalty

331. The employer who contravenes any Section of this Chapter shall be liable to pay a fine of:

(1) First instance: Ninety (90) times the Daily National Minimum Wage;

(2) Second instance: One hundred and eighty (180) times the Daily National Minimum Wage; and

(3) Third and repeated instances: Three hundred and sixty (360) times the Daily National Minimum Wage.

Chapter 11
Confined Space

Duties of Employer

332. The employer shall take adequate measures to prevent any employees or other persons from entering the confined space without an entry permit.

333. Before any employees or other persons enter or work in a confined space, the employer shall:

(1) appoint a supervisor to supervise the work carried out in the confined space;

(2) appoint a competent or authorized person to carry out the test as per Section 332 to confirm that confined space is safe to work;

(3) ensure that a confined space entry permit has been issued by a competent or authorized person which specifies:

(a) the description and location of the confined space;

(b) the purpose of entry into the confined space;

(c) the results of the gas testing of the atmosphere of the confined space;

(d) its period of validity; and

(e) control measures to be implemented for safe entry.

(4) ensure the usage of appropriate PPEs like breathing apparatus, safety harness with a rope;

(5) ensure that there is an attendant outside the confined space to provide assistance in case of an emergency;

(6) ensure that the employee is not carrying any electrical appliance which is operated at a voltage exceeding 24 volts; and if any inflammable gas, fume or dust is likely to be present in such confined space, only flame proof lighting lamp should be permitted to be used therein.

Evaluation of Confined Space Entry Permit

334. The competent or authorized person shall test the atmosphere of the confined space prior to entry on receipt of the application for a confined space entry permit.

335. Subject to Section 334, the competent or authorized person shall:

(1) use a suitable and properly calibrated instrument;

(2) conduct the test in the following sequence:

(a) level of oxygen content;

(b) level of flammable gas or vapour; and

(c) concentration of toxic gas or vapour, where applicable;

(3) conduct the test in a manner that will not endanger themselves or others; and

(4) record the results of the test in the confined space entry permit.

336. The competent or authorized person shall exercise all due diligence when performing their functions in relation to the testing and evaluation for a confined space entry permit under Sections 334 and 335.

Issue of Confined Space Entry Permit

337. The competent or authorized person shall issue a confined space entry permit in respect to entry into or work in the confined space if they are satisfied that:

(1) the level of oxygen in the confined space is within the range of 19.5% to 23.5% by volume;

(2) the level of flammable gas or vapour in the confined space is less than 10% of its lower explosive limit;

(3) the levels of toxic substances in the atmosphere of the confined space do not exceed the permissible exposure levels as specified in the Schedule V appended to this Regulation;

(4) the confined space is adequately ventilated to release the area of toxic gases or even unpleasant odors;

(5) effective steps have been taken to prevent any ingress of dangerous gases, vapours or any other dangerous substances into the confined space; and

(6) all reasonably practicable measures have been taken to ensure the safety and health of persons who will be entering or working in the confined space.

338. If the validity of the confined space entry permit expires, a new entry permit should be processed.

Opening of Entrance Cover of Confined Space

339. The employer shall ensure that:

(1) the entrance cover of the confined space is not removed unless the confined space is depressurized and rendered safe for opening; and

(2) when such entrance cover is removed, the opening to the confined space is barricaded or guarded by railings or other effective means, to prevent any person or object from falling into the confined space.

340. Manhole openings shall conform to the following minimum size:

(1) For rectangular manhole: Manhole cover with 40cm x 30cm;

(2) For Circular manhole: Manhole cover with 40cm dia; and

(3) For Oval manhole: Manhole cover with longer dia 40cm and shorter dia 30cm.

Lighting

341. The employer shall ensure that there is sufficient and suitable lighting inside the confined space.

Ventilation

342. The employer shall ensure that:

(1) adequate and effective ventilation is maintained in the confined space; and

(2) where exhaust ventilation is used, the exhaust air from the ventilation system shall be exhausted to a location outside the confined space where it does not present a hazard to any person.

Safety Sign

343. The employer shall display appropriate safety signs at the entrance of the confined space.

Training of Employees and Supervisors

344. The employer shall ensure that the person entering or working in a confined space has received adequate safety and health training for working in a confined space.

Rescue Plan

345. The employer shall:

(1) establish a written rescue plan in the confined space in the event of an emergency;

(2) appoint a person to carry out rescue operation and ensure that such person is adequately trained to perform rescue operation including first-aid and the proper use of personal protective equipment and other equipment;

(3) ensure that there is a sufficient supply of suitable breathing apparatus, safety harness and ropes, suitable rescue equipment and suitable reviving apparatus which are:

(a) kept readily available;

(b) properly maintained; and

(c) thoroughly examined by a competent person;

(4) conduct a mock drill once a year;

Records

346. Where the fixed and stationary confined space is sited in a workplace, the employer shall:

(1) make a record of the description and location of the confined space; and

(2) inform persons who are liable to be exposed to the hazards of the confined space, of the existence and hazards of the confined space.

347. The employer shall maintain proper record of confined space entry permits issued.

Penalty

348. The employer who contravenes any Section of this Chapter shall be liable to pay a fine of:

(1) First instance: Ninety (90) times the Daily National Minimum Wage;

(2) Second instance: One hundred and eighty (180) times the Daily National Minimum Wage; and

(3) Third and repeated instances: Three hundred and sixty (360) times the Daily National Minimum Wage.

Chapter 12
Boilers, Pressure Vessel, Gas Plant

Steam Boilers

349. Every steam boiler shall be of good construction, sound material and adequate strength, free from patent defects and properly maintained.

350. The steam boiler, whether separate or one of a range shall have attached to it a suitable safety valve and stop valve where ever it is applicable and a correct steam pressure gauge, connected to the steam space and easily visible by the boiler attendant, which:

    (1) indicates the pressure of steam in the boiler; and

    (2) is marked, in a distinctive color, with safe working pressure.

351. Where there is one of two or more boilers, a plate bearing a distinctive number which shall be easily visible, shall be provided with:

    (1) means for attaching a test pressure gauge; and

    (2) a suitable fusible plug or an efficient low-water alarm device.

352. All boilers shall be operated by the qualified boiler attendants/boiler operation engineers possessing essential qualification and experience.

353. The employer or owner shall provide all reasonable facilities to the competent person for examination of the boiler. The

boiler shall be properly prepared for the examination as per advice rendered by the competent person.

354. In case, the employer or the owner is not able to provide all reasonable facilities to the competent person for examination of the boiler, the competent person can refuse to examine the boiler and report the case to the Chief Labour Administrator who in turn, if satisfied may also forbid the use of the boiler.

355. The competent person shall:

(1) verify whether the stamping or nameplate is legible and represents the item described on the inspection documentation;

(2) perform external and internal inspections and witness the pressure tests if required;

(3) report the inspection results, including any nonconforming conditions, in the manner prescribed to the owner of the boilers;

(4) verify that the boiler owner has informed in writing to the Chief Labour Administrator and the activity is permitted under the scope of the structural alteration, addition or renewal to be made under their supervision; and

(5) verify that all materials to be used for structural alteration, addition or renewal comply with the prescribed standards/codes.

356. Any steam boiler using electricity as the only form of power shall have:

(1) attached to it a steam pressure control device which shall be set to the pressure at or below the maximum permissible working pressure of the boiler; and

(2) a safety valve attached to the boiler which shall be examined and tested by a competent person at least once a month, and the report on every such test shall be recorded and shall be made available for inspection at any time by a Labour Inspector.

357. No work shall be permitted in any boiler-furnace or boiler-flue until it has been sufficiently cooled by ventilation or by other means to make it safe for the persons at work to work there.

358. The steam boiler shall be examined by a competent person

(1) at least once every year; and

(2) after any extensive repairs.

Steam Receivers

359. All provisions of steam boilers shall be applicable to steam receivers as well.

360. The competent person after examining the steam boiler and steam receiver shall issue and sign a report about the result of the examination conducted by them referred to above and provide a copy of the same to the owner as well as to the Chief Labour Administrator. If the results of the examination referred to above are in order the certificate of the boiler issued by the competent person shall be valid for a period of one year from the date of issue.

Steam Containers

361. The employer or owner of every steam container used in a workplace shall ensure that the steam container shall be so maintained as to secure that the outlet is at all times kept open and free from obstruction.

Air Receivers

362. Every air receiver shall be of sound construction and properly maintained.

363. The air receiver shall:

(1) be conspicuously marked with its safe working pressure;

(2) in case, the receiver is connected with an air compressing plant:

(a) be so constructed as to withstand with safety the maximum pressure which can be obtained in the compressor; or

(b) be fitted with a suitable reducing valve or other suitable appliance to prevent the safe working pressure of the receiver from being exceeded.

(3) be fitted with a suitable safety valve so adjusted as to permit the air to escape as soon as the safe working pressure is exceeded;

(4) be fitted with an accurate pressure gauge indicating the pressure in the receiver;

(5) except in the case of a receiver in which substance in the form of solid or liquid is stored and from which it is forced by compressed air must be fitted with a suitable appliance for draining the receiver;

(6) provided with a suitable manhole, handhold or other means which will allow the interior to be thoroughly cleaned; and

(7) where there is more than one receiver in use in the workplace, bear a distinguishing mark which shall be easily visible.

364. For the purpose of Section 363(3) or 363(4), but subject to Section 365, any set of air receivers supplied with air through a single pipe may be treated as one receiver.

365. Where a suitable reducing valve or other suitable appliance to prevent the safe working pressure from being exceeded is required to be fitted on the air receiver, the valve or appliance must be fitted on the single pipe.

Pressure Vessel Containing Hazardous Substance

366. The employer shall ensure that a pressure vessel used in any workplace that contains any hazardous substance is:

(1) of good construction, sound material and adequate strength;

(2) free from patent defects;

(3) properly maintained; and

(4) inspected by a competent person before use and thereafter within such a period of time as the Chief Labour Administrator may specify.

367. The employer shall:

(1) maintain a record of the inspection referred to in Section 366(4) of this Regulation; and

(2) keep such record available for inspection by the Labour Inspector.

368. The competent person shall exercise all due diligence in conducting any inspection under this Section 366(4).

Pipes and Equipment Conveying certain Substances

369. The employer shall ensure that every pipe, pump, compressor and other equipment in the workplace used to convey steam, air refrigerant or any hazardous substance, and each part and fitting of, and attachment to, every pipe, pump, compressor and other equipment is:

    (1) of good construction, sound material and adequate strength;

    (2) free from patent defects; and

    (3) properly maintained.

Gas Plants

370. Every gas plant shall be of sound construction and properly maintained.

371. Every gas plant shall be inspected by a competent person before use and thereafter within such a period of time as the Chief Labour Administrator may specify.

372. Every water-sealed gasholder which has a storage capacity of not less than 25 cubic meters shall be examined externally by a competent person at least once every 2 years.

373. A record of the examination/ inspection referred to in section 371 containing such particulars as the Chief Labour Administrator may determine shall be entered in or attached to a register.

374. No gasholder shall be repaired or demolished except under the direct supervision of a person who:

(1) has training and experience; and

(2) with their knowledge of the necessary precaution against risks of explosion and of persons being overcome by gas, is competent to supervise the work.

375. No gas filling shall be allowed except under the direct supervision of a person who:

(1) has training and experience; and

(2) with their knowledge of the necessary precautions against any risk, is competent to supervise the work.

376. No gas cylinder shall be filled unless-

(1) The cylinder has been examined or tested by a competent person where the cylinder for:
(a) corrosive gases, at least once in 2 years; or
(b) other gases, at least once every 5 years; and

(2) the result of such examination or test is entered in a register and kept for inspection by a Labour Inspector.

377. The employer or the owner of a gas plant used in a workplace, shall comply with Sections 370 to 376 of this Regulation.

378. The competent person shall exercise all due diligence in conducting any test or examination under this Section 376(1).

Penalty

379. The employer who contravenes any Section of this Chapter shall be liable to pay a fine of:

(1) First instance: Ninety (90) times the Daily National Minimum Wage;

(2) Second instance: One hundred and eighty (180) times the Daily National Minimum Wage; and

(3) Third and repeated instances: Three hundred and sixty (360) times the Daily National Minimum Wage.

Chapter 13
Fire Protection

General Requirements

380. Where any person at work in any workplace carries out any process, operation or work, the employer shall ensure that a fire protection system is provided, maintained and implemented to prevent injury and death by fire in the workplace.

Fire Protection

381. Every workplace shall be provided with adequate means of protection and escape in case of fire.

382. Process, equipment, plant etc. involving serious explosion and serious fire hazards should be:

(1) located in separate buildings where the equipment shall be so arranged that only a minimum number of employees are exposed to such hazards at any one time;

(2) located in building or work places separated from one another by walls of fire-resistant construction; and

(3) equipment and plant involving serious fire hazards shall where ever possible be so constructed and installed that in case of fire, they can be easily isolated.

383. Ventilation ducts, pneumatic conveyors and similar equipment involving a serious fire risk should be provided with flame arresting or automatic fire extinguishing appliances, or fire resisting dampers, electrically inter-locked with heat

sensitive/smoke detractors and the air-conditioning plant system.

384. In all workplaces having serious fire or flash fire hazards, passages between machines, installations or piles of material should be at least 90cm wide. For storage piles, the clearance between the ceiling and the top of the pile should not be less than 2 m.

385. Protection from lightning shall be provided for:

(1) building in which explosives or highly flammable substances are manufactured, used, handled or stored;

(2) storage tanks containing oils, paints or other flammable liquids;

(3) buildings, tall chimneys or stacks where flammable gases, fumes, dust or lint are likely to be present; and

(4) sub-station buildings and outdoor transformers and switch yards.

386. Precaution against ignition should be taken wherever there is danger of fire or explosion from accumulation of flammable or explosive substances in air:

(1) all electrical apparatus shall either be excluded from the area of risk or they shall be of such construction and so installed and maintained as to prevent the danger of their being a source of ignition.

(2) effective measures shall be adopted for prevention of accumulation of static charges to a dangerous extent;

(3) employees shall wear shoes without iron or steel nails or any other exposed ferrous materials which is likely to cause sparks by friction;

(4) smoking, lightening, or carrying of matches, lighters or smoking materials shall be prohibited;

(5) transmission belts with iron fasteners shall not be used; and

(6) all other precautions, as are reasonably practicable, shall be taken to prevent initiation of ignition from all other possible sources such as open flames, frictional sparks, overheated surfaces of machinery or plant, chemical or physical, chemical reaction and radiant heat.

387. Spontaneous ignition: Where materials are likely to induce spontaneous ignition, care shall be taken to avoid formation of air pocket and to ensure adequate ventilation. The material susceptible to spontaneous ignition should be stored in dry conditions and should be in heaps of such capacity and separated by such passage which will prevent fire. The materials susceptible to ignition and stored in the open shall be at a distance not less than 10 m away from process or storage buildings.

388. Cylinders containing compressed gas may only be stored in open if they are protected against excessive variation of temperature, direct rays of sun, or continuous dampness. Such cylinders shall never be stored near highly flammable substances, furnaces or hot processes. The room where such cylinders are stored shall have adequate ventilation.

389. Storage of flammable liquids:

(1) the quantity of flammable liquids in any work room shall be the minimum required for the process or processes carried on in such room, and flammable liquids shall be stored in suitable containers with close fitting covers;

(2) flammable liquids shall be stored in closed containers and in limited quantities in well ventilated rooms of fire resisting construction which are isolated from the remainder of the building by fire walls and self-closing fire doors;

(3) large quantities of such liquids shall be stored in isolated adequately ventilated building of fire resisting construction or in storage tanks, preferably underground and at a safe distance from any building; and

(4) effective steps shall be taken to prevent leakage of such liquids into basement, sumps drains and to confine any escaping liquid within safe limits.

390. Accumulation of flammable dust, gas, fume or vapour in air or flammable waste material on the floors:

(1) effective steps shall be taken for removal or prevention of the accumulation in the air of flammable gas, fume or vapour to an extent which is likely to be dangerous; and

(2) no waste material of a flammable nature shall be permitted to accumulate on the floors and shall be removed at least once in a day or shift, and more often, when possible. Such materials shall be placed in suitable metal containers with covers, wherever possible.

Fire Exits

391. Fire exits may be a doorway, corridor, passageway to an external stairway or to veranda or to internal stairway segregated from the rest of building by fire resisting walls which shall provide continuous and protected means of egress to the exterior of a building or to an exterior open space. An exit may also include a horizontal exit leading to an adjoining building at the same level.

392. Lifts, escalators and revolving doors shall not be considered as exits for the purpose of this Regulation.

393. In every workplace exits sufficient to permit safe escape of the occupants in case of fire or other emergency shall be provided which shall be free of any obstruction.

394. The exits shall be:

    (1) clearly visible and suitably illuminated with suitable arrangement, whatever artificial lighting is to be adopted for this purpose, to maintain the required illumination in case of failure of the normal sources of electric supply;

    (2) marked in Dzongkha and English;

    (3) equipped with at least one fire door of self-closing type;

    (4) provide continuous means of egress to the exterior of a building or to an exterior open space leading to a street; and

    (5) so located that the travel distance to reach at least one of them on the floor shall not exceed 30 m.

395. Iron rung ladders or spiral staircases shall not be used as exits staircases.

396. Fire resisting doors or roller shutters shall be provided at appropriate places along the escape routes to prevent spread of fire and smoke, particularly at the entrance of lifts or stairs where tunnel or flue effect may be created including an upward spread of fire.

397. In case of those workplaces where highly hazardous materials are stored or used, the travel distance to the exits shall not exceed 22.5 m and there shall be at least two ways of escape from every room, however, small, except toilet rooms so located that the points of access thereto are out of or suitably shielded from areas of high hazard.

398. There shall not be less than two exits serving every floor area above and below the ground floors, and at least one of them shall be an internal enclosed stairway. The two exits shall be as remote from each other as possible, and both exits shall be accessible through separate ways from any point on the floor.

399. For every building or structure used for storage only and every section thereof considered separately, shall have access to at least one exit so arranged and located as to provide a suitable means of escape for any person employed therein, and in any such room wherein more than 10 persons may be normally present at least two separate means of exits shall be available, as remote from each other as practicable.

400. Every storage area shall have access to at least one means of exits which can be readily opened.

401. Exit doorways shall;

(1) not be less than 100cm in width and 200cm in height;

(2) open outwards in the direction of exit travel. No door when opened shall reduce the required width of stairway or landing to less than 90cm overhead, a sliding door shall not be installed for this purpose;

(3) not open immediately upon a flight of stairs. A landing of at least 1.5m x 1.5m in size shall be provided in the stairway at each doorway. The level of landing shall be the same as that of the floor way it serves; and

(4) open into an enclosed stairway horizontal exit or a corridor or passageway providing continuous and protected means of egress.

402. Exit door and stairways constructed of hollow combustible material; shall not be permitted.

403. The width of a horizontal exit shall be same as for the exit's doorways.

404. The floor area on the opposite or refuge side of a horizontal exit shall be sufficient to accommodate occupants of the floor area served, allowing not less than $0.3m^2$ per person. The refuge shall be provided with exits adequate to meet the requirements of this sub-rule. At least one of the exits shall lead directly to the exterior or street;

405. Where there is difference in level between connected areas for horizontal exit, ramps not more than 1 in 8 slopes shall be provided. For this purpose, steps shall not be used.

406. Doors in horizontal exit shall be openable at all times.

Firefighting Facilities

407. Building and plants shall be so laid out and roads, passageways etc. so maintained as to permit unobstructed access for firefighting.

408. Doors and window openings shall be located in suitable positions on all external walls of the building to provide easy access to the entire area within the building for firefighting.

Water Supply

409. At every workplace adequate provision of water supply for firefighting shall be provided and maintained:

(1) where connection from a public water supply system is not available, an adequate private water supply reservoir capable of supplying all fire-fighting systems for at least two hours shall be provided;

(2) supply system, including tanks or reservoirs and pumps, shall be located and protected that their operation or use will not be impaired by a fire in the workplace.

Hydrants and Hoses

410. Hydrants shall be:

(1) of the same types and sizes as those used by the local Public Fire Department (if any) or as per the standard set out by the government; and

(2) located or protected that they will not be exposed to mechanical damage from vehicles.

411. Hose couplings, outside hydrants or standing nipples shall be of the same type and size as those used by the local Public

Fire Department (if any) and shall be thoroughly drained and dried after each use, and tested at frequent intervals.

Portable Fire Extinguishers

412. All places of employment, including those where automatic-sprinkler protection system is installed, shall be provided with appropriate portable fire extinguishers for protection against incipient fires as provided in Schedule IX as appended to this Regulation.

413. Portable extinguishers shall be maintained in fully charged and operable condition and kept in their designated places at all times when not in use.

414. Approved fire extinguishers shall be used.

415. Extinguishers shall be:

(1) installed on hangers or brackets conspicuously located in unobstructed areas readily accessible in the event of fire;

(2) inspected regularly as per manufacturers' recommendations or standards being followed by the Public Fire Department (if any) or standard set by the government; and

(3) installed at not more than 1.5 m above the floor for less than 18kg and not more than 1m above the floor for 18kg, except wheeled types.

416. The employer shall not provide or make available in the workplace portable fire extinguishers using carbon tetrachloride or Bromochloromethane extinguishing agents.

Training and Education

417. The fire-fighting equipment to be provided as per this Regulation shall be in the charge of a trained responsible person who shall also be responsible for the proper maintenance and upkeep of all fire-fighting equipment.

418. Not less than 20 percent of the total employees shall be trained in the proper handling of fire-fighting equipment and their appropriate use against the type of fire for which they are required to be used.

Fire Exit Drills

419. Fire exit drills shall:

(1) be conducted at least twice a year to maintain an orderly evacuation of the workplace; and

(2) only include evacuation of person and shall not include salvage operation.

Fire-fighting Team

420. Every workplace depending on the magnitude of potential fire hazard and the availability of assistance from the Public Fire Department (if any) shall organize the fire-fighting team to deal with fires and other emergencies.

421. The members of the fire-fighting team shall be physically fit for the job and properly trained on fire-fighting, use of hose, line, ventilation of buildings, salvage operations, rescue operations, first aid, and other related activities.

Penalty

422. The employer who contravenes any Section of this Chapter shall be liable to pay a fine of:

(1) First instance: Ninety (90) times the Daily National Minimum Wage;

(2) Second instance: One hundred and eighty (180) times the Daily National Minimum Wage; and

(3) Third and repeated instances: Three hundred and sixty (360) times the Daily National Minimum Wage.

Chapter 14
Health

First Aid Box

423. Every workplace shall have a well maintained, readily accessible and sufficient number of First Aid boxes. The distance of the nearest First Aid box shall not be more than 200 m from any working place.

424. Each first aid box shall be distinctly marked "FIRST AID" and shall be equipped as specified in Schedule X appended to this Regulation.

First Aider

425. Where more than 20 persons are employed in a workplace, there shall be appointed first-aiders who shall be readily available during working hours.

426. Thereafter the ratio of one first-aider for every 50 persons employed in the workplace or part thereof.

427. Where there is a shift work schedule in a workplace, the ratio of the number of first-aiders available on each shift to the number of persons employed at work on that shift shall comply with the ratio specified in Section 426.

428. The First Aider shall:

(1) be in charge of the First Aid box;

(2) be certified by a competent authority;

(3) undergo a refresher course at least once in every two years; and

(4) maintain a record of all first aid services rendered by them.

429. A notice shall be affixed in every workplace stating the names of the First Aiders.

First-aid for Exposure to Toxic or Corrosive Substances

430. Where any employee may be exposed to toxic or corrosive substances in a workplace, the employer shall make provision for emergency treatment of the person, maintain the antidotes, first aid applicable as per the MSDS of the chemical exposure.

431. Where the eyes or body of any person in a workplace may come into contact with toxic or corrosive substances, the employer shall ensure that suitable facilities for quick drenching or flushing of the eyes and body (safety shower and eye wash facility) are provided and properly maintained within the work area for emergency use.

Occupational Health Room

432. In every workplace where any hazardous process is carried out or 200 or more employees are ordinarily employed there shall be provided and maintained an Occupational Health Room equipped with ambulance van, to the scale laid down under Schedule X appended to this Regulation.

433. A qualified medical professional assisted by at least one qualified nurse shall be in charge of the Occupational Health Room.

434. The workplace with more than 50 but less than 200 employees must make an arrangement with the nearby

medical centre or hospital to attend to any emergency including the availability of ambulance van.

Persons to be Medically Fit for Employment

435. The employer shall ensure that a person who is to be employed in any hazardous occupation shall undergo a medical examination by a qualified medical professional and be certified fit to work in such occupation.

436. The medical examination referred to in Section 435 shall:

(1) consist of the examinations and investigations specified in Schedule X of this Regulation; and

(2) include:

(a) a clinical examination of the person for symptoms and signs of any diseases that may result from exposure to the hazards of the occupation in which the person is employed; and

(b) an assessment as to whether the person who is to be employed in industries involving hazardous processes is fit to work inthat occupation.

Periodic Medical Examinations

437. The employer shall ensure that an employee working in industries involving hazardous processes shall undergo a periodic medical examination by a qualified medical professional.

438. The periodic medical examinations referred to in Section 437 shall:

(1) consist of the examinations and investigations specified in Schedule X;

(2) include:

(a) a clinical examination of the person for symptoms and signs of any diseases that may result from exposure to the hazards of the occupation in which the person is employed; and

(b) an assessment as to whether the person who is employed in a hazardous occupation is fit to continueworking in that occupation; and

(3) take place at the intervals specified in the Schedule X.

439. The employee(s) who is required to undergo periodic medical examination or investigation under this Regulation shall submit themselves for such medical examination or investigation.

Medical Expenses

440. The employer shall:

(1) bear all the expenses incurred for medical examinations and investigations that the person employed or to be employed in industries involving hazardous processes is required to undergo under this Regulation to the extent that such services are not provided free of charge by the Royal Government of Bhutan's health services; and

(2) grant paid leave of absence to that employee(s) required to undergo any medical examination or investigation under these Regulations.

Medical Records

441. The employer shall:

(1) maintain the record of the medical examination of all the employees in accordance with guidelines prepared by Ministry of Health. The record shall be produced upon inspection by the Labour Inspector; and

(2) ensure that every employee shall have an access to their medical record to know the status of their health.

Infectious Agents and Biohazardous Material

442. Where any employee(s) at work in any workplace carries out any process, operation or work involving exposure to any infectious agents or biohazardous material which may constitute a risk to their health, it shall be the duty of the employer of that person to take effective measures to protect that person from their harmful effects.

443. In the Section 442, "infectious agents or biohazardous material" includes any:

(1) substance which contains toxins;

(2) biological waste;

(3) culture medium;

(4) contaminated blood, urine or faeces;

(5) infected tissue or organ; and

(6) infected animal.

Penalty

444. The employer who contravenes any Section of this Chapter shall be liable to pay a fine of:

(1) First instance: Ninety (90) times the Daily National Minimum Wage;

(2) Second instance: One hundred and eighty (180) times the Daily National Minimum Wage; and

(3) Third and repeated instances: Three hundred and sixty (360) times the Daily National Minimum Wage.

Chapter 15
Welfare

Drinking Water

445. At every workplace effective arrangements shall be made to provide and maintain suitable points conveniently located for all employees, the sufficient supply of safe drinking water.

446. Such points shall be marked "drinking water" in Dzongkha and English. The drinking water location shall be minimum 6 m away from any urinal, latrine, open drain or washing facility.

447. The employer shall make effective arrangements for cool drinking water during hot weather.

Sanitary Conveniences

448. At every workplace, the employer shall ensure a gender and person with disability friendly toilets and shall be provided in accordance to the following Table 2:

Table 2: Numbers of Toilets required

No. of employees at work	Numbers of toilets (Female)	No. of persons at work	Numbers of toilets (Male)
1-5	1	1-15	1
1-15	2	16-30	1
16-30	3	31-45	2
31-45	4	46-60	3
46-60	5	61-75	3
61-75	6	76-90	4
76-90	7	91-100	4
91-100	8		

449. Where the number of employees exceeds 100, there shall be one toilet for every 40 employees thereafter.

450. There shall be appropriate signs displayed outside each toilet indicating "For Man " and "For Woman".

Canteen

451. In every workplace where an employer provides a canteen, it shall be maintained in accordance with BAFRA Rules or Regulations.

Lunch Room

452. In every workplace where in more than 20 employees are ordinarily employed, the employer shall provide an adequate and suitable rest room/lunch room with provision of safe drinking water, where employees can eat meals brought by them. The rest room/lunch room shall be kept clean and tidy at all times and should be well ventilated. The room shall be adequately furnished.

453. Provided that where canteen is provided in accordance with Section 451, the requirement of rest room/lunch room will not be made applicable.

Creche

454. At every workplace where employees with children are employed, there shall be provided and maintained a suitable room in accordance with the National Commission for Women and Children Guidelines for Creche centres. This shall be under the charge of a person trained in the care of children.

Washing Facilities and Changing Room

455. There shall be provided and maintained in every workplace for the use of employees adequate and suitable facilities for washing which shall include soap and nail brushes or other suitable means of cleaning and the facility shall be conveniently accessible and shall be kept in a clean and orderly condition.

456. At any enterprise, employing 20 or more employees, the employer shall provide changing rooms with locker facilities to the employees.

Temporary Living Accommodation

457. If the employer were to provide temporary living accommodation at the workplace or vicinity for the employees, the living accommodation should be constructed at the safest place where there is no risk of flooding, landslide, collapse, falling boulders and other elements in accordance to Schedule III of the Regulation on Occupational Health and Safety for the Construction Industry, 2022.

Penalty

458. The employer who contravenes any Section of this Chapter shall be liable to pay a fine of:

(1) First instance: Ninety (90) times the Daily National Minimum Wage;

(2) Second instance: One hundred and eighty (180) times the Daily National Minimum Wage; and

(3) Third and repeated instances: Three hundred and sixty (360) times the Daily National Minimum Wage.

Chapter 16
Reporting of Accident, Dangerous Occurrence and Occupational Diseases

Reporting of Injury Resulting in Death

459. Where any accident takes place at a workplace or in the course of employment or business undertaking of an employer which causes death to an employee or which results in such bodily injury to an employee which may result in death, the employer shall immediately notify the Chief Labour Administrator and the nearest Police Station of the accident.

460. Any notice given in Section 459 shall be confirmed by a detailed written report in Form 8 within 5 days of the occurrence of the accident to the Chief Labour Administrator.

Reporting of Specified Injuries

461. The employer shall report any accident that takes place at a workplace or in the course of employment or business undertaking of an employer to an employee resulting bodily injuries specified below:

(1) a fracture, other than to fingers, thumbs and toes;

(2) amputation of an arm, hand, finger, thumb, leg, foot or toe;

(3) permanent loss of sight or reduction of sight;

(4) crush injuries leading to internal organ damage;

(5) serious burns (covering more than 10% of the body, or damaging the eyes, respiratory system or other vital organs);

(6) scalping (separation of skin from the head) which requires hospital treatment;

(7) unconsciousness caused by head injury or asphyxia; and

(8) any other injury arising from working in an enclosed space, which leads to hypothermia, heat-induced illness or requires resuscitation or admittance to hospital for more than 24 hours.

Reporting of Loss of Working Days

462. The employer shall report any accidents where an employee being away from work, or unable to perform their normal duties for more than 3 consecutive days as a result of the injury. The 3-calendar day period does not include the day of the accident. The report must be made within 5 calendar days of the accident to the Chief Labour Administrator.

Reporting of Dangerous Occurrence

463. Where any dangerous occurrence specified in Schedule XI appended to this Regulation takes place, the employer shall immediately notify the Chief Labour Administrator of such occurrence. This notice shall be confirmed by a written report in Form 6 to the Chief Labour Administrator but by no later than 2 days after the dangerous occurance.

Reporting of Occupational Disease

464. Where any employee at a workplace contracts any occupational disease specified in Schedule XII, the employer shall immediately notify the same to the Chief Labour Administrator in Form 8.

Reportable Accident of Non-employee

465. Where any accident takes place at a workplace due to business undertaking of an employer which causes death or results in bodily injury as specified in Section 461 of this Regulation to the non-employee, the employer shall report to the Chief Labour Administrator within 5 calendar days of the accident in Form 8.

Accident Recording

466. All accident must be recorded in Form 7 by the employer.

Penalty

467. The employer who contravenes any Section of this Chapter shall be liable to pay a fine of:

(1) First instance: Ninety (90) times the Daily National Minimum Wage;

(2) Second instance: One hundred and eighty (180) times the Daily National Minimum Wage; and

(3) Third and repeated instances: Three hunded and sixty (360) times the Daily National Minimum Wage.

Chapter 17
Workers Compensation

Compensation

468. An employer shall compensate all employees for injuries or diseases or death arising out of and in the course of employment, the employer shall be liable to pay compensation in accordance to this Chapter.

469. Section 468 shall apply if an incident occurs when an employee is:

(1) at any place for the purpose of working for their employer;

(2) having a break from work at the workplace for a meal or rest period;

(3) in a vehicle provided by the employer to transport employees to and from work; and

(4) travelling to or from treatment for a previous work-related injury or disease.

Compensation Payment

Emergency Care

470. The employer or the insurer shall compensate an injured employee or one suffering from an occupational disease for all expenses related to emergency care including ambulance and related expenses, to the extent such services are not provided free of charge by the Royal Government's health services.

Medical Care and Surgery

471. The employer or the insurer shall compensate an injured employee or one suffering from an occupational disease for all medical and nursing care, surgery, hospital fees, medication, X-rays, diagnostic testing, and all other forms of treatment, to the extent that such services are not provided free of charge by the Royal Government's health services.

Total Permanent and Partial Permanent Disablement

472. The employer or the insurer shall pay compensation to an employee for permanent and partial disablement due to injury arising out of and in the course of employment.

473. The compensation under Section 472 shall be a lump sum payment which shall be obtained by multiplying 30 days of the Daily National Minimum Wage by appropriate age factors in second column of Schedule XIV appended to this Regulation according to the age on the next birthday of the employee at the time of the accident as specified in the first column, times the percentage of incapacity as specified in the third column of Schedule XIII appended to this Regulation.

Occupational Diseases

474. The employer or the insurer shall pay compensation to an employee who suffers from occupational diseases which results in total permanent or partial permanent disablement or death due to exposure to the agents arising out of and in course of employment.

475. If an employee who is employed in any occupation described in Schedule XVI contracts any disease shown in the said schedule to be related to that occupation, or if an employee

who has been employed in such occupation contracts such a disease within five years after ceasing to be so employed, the contracting of the disease or injury shall, unless the contrary is proved, be deemed to be an employment injury arising out of and in the course of employment: Provided that the period of five years may, at the discretion of the employer, be further extended upon production of medical and other relevant evidence in support of it.

476. Any total permanent or partial permanent disablement to an employee due to occupational diseases shall be treated as accident injury and the compensation shall be paid in lump sum as per Section 471 to 475 of this chapter.

Determination of Occupational Diseases

477. For an occupational disease and the resulting disability or death to be compensable, all of the following conditions must be satisfied:

(1) the employee's work and/or the working conditions must involve risk(s) that caused the development of the diseases;

(2) the disease was contracted as a result of the employee's exposure to the described risks;

(3) the disease was contracted within a period of exposure and under such other factors necessary to contract it; and

(4) there was no deliberate act on the part of the employee to disregard the safety measures or ignore established warning or precaution.

Medical Leave

478. Where the employee is not able to return to work due to incapacity whether total permanent or partial permanent disablement as specified in Schedule XIII appended to this Regulation or temporary disablement as a result from the injury, the employee shall be entitled to full earnings for a period of 90 days, and thereafter to a further periodical payment of an amount equal to 75 percent of employee's last basic wage earnings during the incapacity or during a period of one year, whichever period is shorter.

479. No payment under Section 478 shall be deducted from the lump sum payable in respect of any permanent incapacity which follows any period of temporary incapacity.

480. If the incapacity of the employee ceases before the date on which any payment under Section 478 falls due, the employee shall be paid an amount as is appropriate to the duration of such temporary incapacity.

481. The authorized medical practitioner shall determine the percent of permanent and partial disablement as specified in the Schedule XIII appended to this Regulation and the temporary incapacity.

Rehabilitation and Support Services

482. An employee who is disabled as a result of injury or disease in addition to being compensated for loss of earnings shall be compensated by the employer or the insurer, for the cost of rehabilitation and re-training services aimed at enabling the disabled employee to return to work, not necessarily to the same job, as soon as possible, to the extent that such services

are not provided free of charge by the Royal Government's health services.

483. An employer or the insurer shall meet the cost of any assistive devices including crutches, prosthesis, wheelchair, or other devices to improve the mobility or ability of the disabled employee to work and facilitate his or her return to work if such devices are not provided by the government.

484. The employer or the insurer shall meet all the necessary expenditure for adaptations to the workplace or individual workstation to facilitate the return of the disabled employee to the workplace and to enable them to undertake productive work.

Death

485. The employer or the insurer shall pay compensation to the dependents of an employee who dies as a result of injury or occupational disease arising out of and in the course of employment.

486. Where death results from injury or occupational diseases, the amount of compensation payable shall be lump sum payment which shall be obtained by multiplying the 30 days of the National Minimum Wage by the appropriate factors in the second column of Schedule XV appended to this Regulation according to the age on the next birthday of the employees at the time of the accident as specified in the first column of Schedule XV appended to this Regulation thereof.

487. The claimant shall produce a death certificate issued by an authorized medical professional or a competent authority while claiming compensation.

Exceptions to Employer's Liability to Compensate

488. The employer or the insurer shall not be liable for compensation in the following circumstances:

(1) where the work accident and related injury is the result of the willful disobedience of an employee to an order or directive expressly framed for ensuring the safety of the employee;

(2) where the work accident and related injury is due to the willful removal or disregard by the employee to any safety guard or other device or notice that is known by the employee to be provided for the purpose of securing the safety of that employee;

(3) where the accident and related injury is the result of an employee being under the influence of alcohol, drugs or other intoxicating substances, such that the ability of the employee to perform job tasks to the required standard is impaired. An employer must however, take all reasonable measures to ensure that no employee under the influence of alcohol or any other psychotropic substance is admitted to work or work premises;

(4) where the injury or death of the employee occurs in the employee's nonworking time and such injury or death is unrelated to the employee's work or work environment; and

(5) where an occupational disease relates to a medical condition that existed prior to the commencement of the employment contract and has not been exacerbated by the nature of the work required under the current employment situation. An employer must however, ensure

that any such medical condition existing prior to admission to employment is noted in the medical fitness certificate.

Insurance

489. The employer shall insure all employees with an authorized financial institution to ensure that all types and levels of compensation prescribed in this Chapter are covered by an insurance policy.

490. Section 489 does not apply to those employers holding Micro Trade business licenses.

Contributions

491. The agreed premium shall be paid by the employer and shall not be deducted from the employee's wage/salary.

492. In the event an employer fails to pay the premium on time and the Insurer is not liable for the compensation, the employer shall pay all compensations liable under this Chapter.

Claims

493. If the employee has been insured by the employer as the insured party, the employee or dependent of the employee shall lodge a claim with the insurer for injury, disease or death as soon as possible after being notified of that injury, disease or death.

494. The notice in Section 493 means the incident reported to Chief Labour Administrator under Chapter 16 of this Regulation.

495. The employee or the dependent of the employee shall submit an application to the insurer to claim for compensation under this chapter.

496. The insurer shall confirm the claim with the Chief Labour Administrator and conduct assessment within 10 calendar days after receiving the application for claiming compensation.

497. The insurer shall pay the compensation within 15 calendar days of insurer receiving compensation claim application and the same shall be intimated to the Chief Labour Administrator.

498. The compensation payment to the employees or the dependent of the employee shall be made in cash or by transfer to the employee's bank account or account specified in the claim application.

499. In the event, where the employer pays compensation directly to the employee or dependent of the employee, the compensation shall be paid in accordance to Section 498 of this Regulation and the same shall be intimidated to the Chief Labour Administrator.

Retaliation

500. An employer shall not retaliate against an employee reporting or lodging a claim for an accident or disease by discriminating against that employee as provided in Section 11 to 14 of the Act.

Fraudulent Claims

501. An employee who makes a fraudulent claim for an injury or disease shall be liable to answer a charge of gross misconduct as provided in the Act, leading to possible

summary dismissal and imprisonment for a period of 1-3 years.

Penalty

502. The employer who fails to compensate under this Chapter shall be liable for penalty as per Section 98 of the Act.

503. The employer who contravenes the Sections 470 to 471, 478 to 480, 482 to 484, 489, 491 to 492 and 499 to 500 and an insurer who contravenes Section 496 to 498 of this Regulation shall be liable to pay a fine of:

(1) First instance: Ninety (90) times the Daily National Minimum Wage;

(2) Second instance: One hundred and eighty (180) times the Daily National Minimum Wage; and

(3) Third and repeated instances: Three hundred and sixty (360) times the Daily National Minimum Wage.

Chapter 18
Definitions

504. For the purpose of this Regulation unless the context indicates otherwise, the words, phrases and acronyms are defined as follows:

Accident means any unintended or unforeseen event or mishap arising from work activity that results in death or injury to an employee.

Automatic Feeding means feeding wherein the material or part being processed is placed within or removed from the point of operation by a method or means not requiring action by an operator on each stroke of the press.

Boiler attendant is a competent person who can safely operate, manage boilers, diagnose faults of the boiler and repair it using all safety precautionary measures.

Chemical Runaway refers to the release or escape of chemicals from a chemical reaction vessel due to over-pressurization of the vessel caused by violent boiling or rapid gas generation. This usually happens during exo-thermic reactions when the rate at which heat is produced far exceeds the rate at which heat is removed. The release of such hazardous chemicals could lead to serious injuries to the health of the employees and the general public. It also has the potential to cause fire and explosions.

Dangerous Occurrence means an unintended or unforeseen event or mishap occuring from work activity of such nature as may be prescribed occurs, whether causing any bodily injury or disability or not.

Death means the end of life, the permanent cessation of all bodily functions.

Dependent means a member of the family of an employee who was wholly or partly dependent on the employee's earnings at the time of the employee's death, and includes legal spouse, child or parent.

Disability means the inability to perform a range of tasks to a reasonable standard considered normal for a particular job or work activity due to some physical, mental or sensory impairment. The degrees of disability are assessed in relation to a job or work activity rather than the extent of physical, mental or sensory impairment.

Dressing or fettling operations is a process of removing excess material from castings often formed by the die's parting lines during the casting process when molten material is injected into the die/mould.

Workplace Emergency means an unforseen situation that threatens the life of the employess, other person (non-employees), or the public; disrupts or shuts down business operation; or causes physical or environmental damage. Workplace emergencies maybe natural or manmade and include the following:

- Floods
- Fires
- Toxic gas releases
- Chemical spills
- Radiological accidents
- Explosions
- Highly infectious(communicable) diseases including public health emergencies;
- Civil disturbances; and
- Workplace violence resulting in bodily harm and trauma.

Employee means a person employed under a contract of employment.

Employer means a person who employs one or more other persons under a contract of employment.

Enterprise means the business of an employer comprising of one or more workplaces.

First Aid means the first and immediate assistance given to any person suffering from either a minor or serious illness or injury, with care provided to preserve life, prevent the condition from worsening, or to promote recovery

First Aider means someone who is qualified to give first aid treatment in the event of an injury or illness.

Flue effect menas the tendency of air or gas in a shaft or other vertical passage to rise when heated, owing to its lower density compared with that of the surrounding air or gas. It's the flue effect that causes fire to spread rapidly.

Globally Harmonized System is an internationally agreed-upon standard that was set up to replace the assortment of hazardous material classification and labelling schemes previously used around the world. Core elements of the GHS include standardized hazard testing criteria, universal warning pictograms, and harmonized safety data sheets which provide users of dangerous goods with a host of information.

Hazard means anything with the potential to cause bodily injury, and includes any physical, chemical, biological, mechanical, electrical or ergonomic hazard.

Hazardous process means any process or activity in relation to an industry specified in the First Schedule where, unless special care is taken, raw materials used therein or the intermediate or finished products, bye- products, wastes or effluents thereof would cause material impairment to the health of the persons.

Hazardous Substance means any substance that may produce adverse health and/or safety effects to people or the environment.

Health and Safety representative means an employee elected under Section 166 to represent the employees at a workplace on matters concerning occupational health and safety.

Immediately means within 12 hours of any accidents or dangerous occurrence that occurs at a workplace.

Incident is referred to as a work-related event(s) in which an injury or ill health (regardless of severity) or fatality occurred, or could have occurred.

Injury means any physical, mental, or emotional deprivation or damage to a person resulting from an accident or exposure to risk over a period of time as, for example, with hearing loss.

Insurer means Insurance Company in Bhutan with which an employee is insured and to which the monthly or annual premium is paid.

Knockout operations is an important segment of casting process. After the cooling of casting, it is removed from the mold by using the process of knockout.

Lock out/ Tag out means the practices and procedures necessary to disable machinery or equipment to prevent hazardous energy release.

Manual Material Handlin **means** any activity that requires an individual to lift, transport or support a load (including the lifting, putting down, pushing, pulling, sudden movement of the load, carrying or moving thereof) by hand or by bodily force.

Occupational disease means any illness or sickness or ailment contracted as a result of an exposure to risk factors arising from work activity.

Permanent Partial Disablement *means a condition in which an employee is still able to work in the same or different occupation for which the employee is situated by training, education or experience at the reduced capacity prior to the workplace or work-related injuries and occupational diseases.*

Person includes an individual, partnership, company, unincorporated organization, government, governmental agency, trustee, executor, administrator or other legal representative.

Personal Protective Equipment is equipment worn to minimize exposure to hazards that cause serious workplace injuries and illnesses.

Point of Operation means that point at which cutting, shaping, or forming is accomplished upon the stock and shall include such other points as may offer a hazard to the operator in inserting or manipulating the stock in the operation of the machine.

Qualified nurse is a certified occupational health nurse who is registered with a relevant authority and have experience in community health care, ambulatory or critical care, or emergency nursing.

Refuge side Refuge areas as the name suggests an area clearly demarked in any commercial or residential building where people can take shelter in case of an emergency.

Risk means the likelihood that a hazard will cause a specific bodily injury to any person.

Risk Assessment means the process of evaluating the probability and consequences of injury or illness arising from exposure to an identified hazard, and determining the appropriate measures for risk control.

Safety Data Sheet means a form that contains detailed information about the possible health and safety hazards of a product and how to safely store, use and handle the product.

Safety officer means a person who is appointed by the employer to look after the occupational health and safety aspects of the workplace.

Standing nipples means a range of single and double valve fire hydrant standpipes, along with extensions and seals to accompany the hydrants.

Temporary Disablement *means a condition in which an employee is incapacitated for a certain period of time due to workplace or work-related injuries and occupational diseases, but able to perform at the reduced efficiency or temporary cannot perform normal task, but is expected to fully recover.*

Time Weighted Average (TWA) means the employee's average airborne exposure in any 8-hour work shift of a 40-hour work week which shall not be exceeded.

Total Permanent Disablement *means a condition in which an employee is no longer able to work due to workplace or work-related injuries and occupational diseases.*

Two Hand Control Device means a two hand trip that further requires concurrent pressure from both hands of the operator during a substantial part of the die-closing portion of the stroke of the press.

Workplace means any place, whether a building or structure, open space, home, office or factory, where an employee works.

List of Schedules

Schedule I: Workplace Safety Signs and Symbols

Health and Safety Sign

Health and Safety signs refers to signs designed to warn of hazards, indicate mandatory actions or use of Personal Protective Equipment, prohibit actions or objects, identify the location of fire-fighting or safety equipment and marking of emergency escape routes.

Sign Board

The sign board is a sign which provides information or instructions by the combination of shape, colour and a symbol or pictogram which is visible and clear. Sign boards can be of the following kind:

1. Danger Sign: A sign used when serious injuries or death are *VERY LIKELY* to occur.

2. Prohibition Sign: A sign used to prohibit behaviour which is likely to cause or increase danger.

3. Warning Sign: A sign used when serious injuries or death *MAY* occur.

4. Mandatory Sign: A sign prescribing specific behaviour.

5. Emergency Escape or First-Aid Sign: A sign giving information about emergency exits, first-aid or rescue facilities.

Safety Colour

The safety colour is a colour to which specific meaning is assigned. For eg: 'yellow' means to be careful.

Safety Colours and Meanings:

Colour Code	Signal Word	Shape	Instruction and Information
RED	Danger, Prohibition, Fire-fighting Equipment	Circle	Dangerous behaviour; stop; shutdown; emergency cut-out, devices; evacuate
Yellow	Warning, Caution	Triangle	Be careful; take precautions; examine
Blue	Mandatory Requirements, Notice	Circle	Specific behaviour or action, eg. wear PPE
Green	Emergency Escape, First-Aid	Square	Doors; exits; escape routes; equipment and facilities

Safety Symbol or Pictogram

Meaningful and recognizable graphical symbols that warn of hazards associated with the item or location.

Prohibition Signs:

Intrinsic Features:

1. Round shape;
2. Black pictogram on white background, red edging and diagonal line (the red part to take up at least 35% of the area of the sign).

Warning Signs:

Intrinsic Features:

1. Triangular shape;

2. Black pictogram on a yellow background with black edging (the yellow part to take up at least 50% of the area of the sign).

Mandatory Signs:

Intrinsic Features:

1. Round shape;
2. White pictogram on a blue background (the blue part to take up at least 50% of the area of the sign).

Emergency Escape/First-Aid Signs:

Intrinsic Features:

1. Rectangular or square shape;

2. White pictogram on a green background (the green part to take up at least 50% of the area of the sign).

Emergency Escape Signs:

First Aid Signs:

First-Aid Poster

Emergency Shower

Stretcher

Fire- Fighting Signs:

Intrinsic Features:

1. Rectangular or square shape;
2. White pictogram on a red background (the red part to take up at least 50% of the area of the sign).

Fire-extinguisher

Fire-Alarm

Fire-hose

Warning Signs for Chemicals: (GHS)

GHS01 Explosive

GHS04 Compressed Gas

GHS07 Harmful

GHS02 Flammable

GHS05 Corrosive

GHS08 Health Hazard

GHS03 Oxidizing

GHS06 Toxic

GHS09 Environmental Hazard

Schedule II: Personal Protective Equipment

All personal protective equipment shall be of the approved design and construction appropriate for the exposure and the work to be performed.

Head Protection

Protective Headwear

1. Protective headwear devices include helmets; bump caps; and hair protection.
2. Helmet or hard hat is a device that is worn to provide protection for the head, or portion thereof, against impact, flying particles, electrical shock, or any combination thereof and that includes a suitable harness.
3. The helmet under paragraph 1 shall be provided to all employees concerned, where there is reasonable probability of exposure to such hazards.
4. Helmets shall be made of non-combustible or slow-burning materials and when used in electrical environment shall be non-conductor of electricity.
5. The total weight of complete helmet should not be more than 0.45 kgs.
6. Helmets shall have a brim all around to provide protection for the head, face and back of the neck. In a situation where the brim would get in a way, a helmet with a cap visor may have to be worn.
7. Helmets without brims and low crowns may be allowed only in confined spaces.

8. The cradle and sweatband of helmet shall be detachable and replaceable.

9. For work in excessive moisture, helmet shall be water-proof-material.

10. For the purpose of proper selection, design, construction, testing and use of head protectors the American National Standards Safety Requirement for Industrial Head Protection (ANSI z59-1-1969) or NIOSH or BIS or any standard prescribed by the Royal Government of Bhutan is adopted.

Hair Protection

11. The employer shall ensure that all persons with long hair employed around rotating shafts, chains, belts, or other rotating machine parts must protect their hair from contact with moving parts by completely covering their hair with well-fitting caps or other equivalent protection.

12. Caps shall be of materials not easily flammable and sufficiently durable to withstand regular laundering, disinfecting and cleaning.

Eye and Face Protection:

13. Eye and face protective equipment include safety glasses, goggles, and face shields. Face shields alone generally do not provide adequate protection against eye injuries and must be combined with basic eye protective glasses or goggles.

14. Eyes and face protective equipment shall be required where there is reasonable probability of exposure to such hazards. In such cases, the employer shall furnish a type of protective equipment suitable for the work to be performed and the

persons at work shall use such equipment. Eye protection shall be provided where the processes or operations present hazards of flying objects, liquids, injurious radiation, glare or a combination of these hazards.

15. Eye and face protective equipment shall conform with the following minimum requirements:

    (1) provide adequate protection against the particular hazard for which they are designed or intended;

    (2) be reasonably comfortable to use;

    (3) fit snugly and shall not unduly interfere with the movements of the user;

    (4) be durable, easily cleaned and capable of being disinfected;

    (5) be kept clean and in good condition; and

    (6) be of the approved type.

16. Whenever eye protection is needed, persons whose visions require the use of corrective lenses shall wear goggles or spectacles of any of the following types:

    (1) spectacles which provide optical correction;

    (2) goggles that can be worn over corrective spectacles without disturbing the adjustment of the spectacles; or

    (3) goggles that incorporate corrective lenses mounted behind the protective lenses.

17. Both eye protection devices and face shields must be kept scrupulously clean to avoid contaminating the surface of the eyes or face.

18. Limitations and precautions indicated by the manufacturer shall be transmitted to the user and care shall be taken to ensure that such limitations and precautions are strictly followed and observed.

Respiratory Protection:

19. The primary corrective measure in the control of occupational diseases caused by harmful dusts, fogs, fumes, mists, gases, smokes, sprays or vapors shall be to prevent atmospheric contamination. This shall be accomplished through the use or application of accepted engineering control measures, like enclosure or confinement of the operation, general and local ventilation and substitution of less toxic materials or a combination of these. When effective engineering control measures are not feasible or while they are in process of being instituted, appropriate respirators shall be used.

20. Respirators are classified as air-supplying or air-purifying devices.

21. Air supplying respirators provide a breathing gas to the employee and include:

    (1) self-contained breathing apparatus (SCBA);

    (2) supplied –air devices; and

    (3) combined supplied-air SCBA respirators.

22. Air-purifying respirators are classified as either gas/vapour devices (also known as chemical cartridge respirators) or particulate devices. These respirators include quarter-face, half-face, and full-face models.

23. Appropriate respirators shall be furnished by the employer when such equipment are necessary to protect the health of the employees.

24. The employee shall use the respiratory protection in accordance with instruments.

25. The employer shall institute a respiratory protective program which shall include the following:

    (1) proper selection of respirators on the basis of the hazards to which the employees are exposed;

    (2) sufficient instruction and training in proper use and limitations of respirators;

    (3) when practicable, the assignment of respirators to individual employees for their exclusive use;

    (4) regular cleaning and disinfecting of the respirators. Respirators issued for the exclusive use of one employee shall be cleaned after each day's use or as often as necessary. Those used by two or more employees shall be thoroughly cleaned and disinfected after each use; and

    (5) appropriate examination and testing of the conditions of the work area in order to assure that the allowable degree of employee exposure is maintained, and to determine the effectiveness of the control measures.

26. Use of Respirators:

    (1) standard procedures shall be developed for the use of respirators. These should include all information and guidance necessary for their proper selection, use and

care. Possible emergency use of respirators should be anticipated and planned for;

(2) written procedures shall be prepared covering safe use of respirators in dangerous atmospheres that might be encountered in normal operations or in emergencies. All personnel shall be familiar with these procedures and the available respirators to use;

(3) employees in enclosed toxic or oxygen-deficient atmosphere shall be assisted in case of accident by at least one additional employee stationed in an area unaffected by the incident and provided with proper rescue equipment to assist other(s) in case of emergency. Communication (visual, voice or signal line) shall be maintained among the individuals present;

(4) when self-contained breathing apparatus or hose masks with blowers are used in atmospheres dangerous to life or health, standby men must be present with suitable rescue equipment;

(5) persons using air line respirators in atmospheres hazardous to life or health, shall be equipped with safety harnesses and safety lines for lifting or removing persons from hazardous atmospheres or other equivalent provisions for the rescue of persons. A standby man or men with suitable self-contained breathing apparatus shall be at the nearest fresh air base for emergency rescue; and

(6) for the safe use of any respirator, the user shall be properly instructed in its selection, use and maintenance.

27. Maintenance and Care of Respirators: A program for the maintenance and care of respirators shall be adopted to the type of plant, working conditions, and hazards involved and shall include the following basic services:

    (1) inspection for defects (including leak check);

    (2) cleaning and disinfecting; and

    (3) repair and storage.

Hearing Protection:

28. Where the persons employed or working in the workplace are exposed or are likely to be exposed to excessive noise, the employer must provide suitable hearing protection equipment to all of them.

29. The employer must evaluate the workplace for hearing hazards and determine the need for hearing protection equipment. Daily work in steady noise of more than 85 decibels for eight-hour shifts is considered hazardous noise exposure.

30. Hearing protectors fall into four categories: enclosure (helmets), aural (ear insert-formable, custom molded, molded), supra aural (canal caps), and circumaural (ear muffs). Each hearing protector should be fitted to each employee, and employees must be taught proper insertion techniques and maintenance procedures.

Fall Protection

Generals provisions

31. Fall protection is a means of preventing employees from experiencing accidental falls from elevations. Fall protection systems are either passive (nets) or active (lifelines, harnesses, etc.). It is the duty of the employer to ensure that fall protection systems shall be provided as a means to protect employees from accidental falls.

32. Employees working in unguarded surface above open pits or tanks, steep slopes, moving machinery and similar locations, or working from unguarded surfaces 6 m or more above water or ground, temporary or permanent floor platform, scaffold construction or where otherwise exposed to the possibility of falls hazardous to life or limb, shall be secured by safety belts and lifelines. In situations where safety belts and lifelines in guarded platforms and scaffolds or temporary floors are not feasible, safety nets shall be provided and installed.

33. Window washers or cleaners working outside buildings 6 m or more above the ground or other surfaces unless protected from falling by other means, shall use safety belts attached to suitable anchors.

34. Employees entering a sewer, flue, duct, or other similarly confined places shall be provided and required to wear safety belts with lifelines attached and held by another person stationed at the opening ready to respond to agreed signals.

35. Employees who are required to climb and work on top of poles 6 m or more shall use safety belts. On top of structures

where there is no place to strap a safety belt, a messenger line shall be installed for strapping the safety belt or lifeline.

Requirements

36. Safety belts shall be made of chromed tanned leather, linen or cotton webbing, or other suitable materials at least 11.5 cm. wide and 0.65 cm. thick and of sufficient strength to support a weight of 114 kgs without breaking.

37. Hardware used for safety belts should have a strength of approximately equal to the full strength of the waist band. Buckles shall hold securely without slippage or other failure. This holding power should be achieved by only a single insertion of the strap through the buckle in the normal or usual way.

38. Belt anchors shall be made of metal machined from bar stock, forged or heat treated, capable of supporting a pull of 2730 kg without fracture applied in the direction which the anchor must withstand should a man fall. All anchors and fastenings shall be provided with means to prevent turning, backing off or becoming loose. Anchor fittings with single thread section which is merely screwed into reinforcing plates shall not be used. Metals recommended for belt anchors are nickel and copper, alloys and stainless steel.

39. Lifelines shall be made of good quality manila rope of at least 1.9 cm diameter or equivalent material such as nylon rope of at least 1.27 cm diameter and shall be of sufficient strength to support a weight of 1140 kg without breaking.

40. Safety nets shall not be less than 0.94 cm. diameter mesh ropes and not less than 1.90 cm. diameter border ropes

(perimeter) made of manila rope or other materials that can absorb the impact of a falling body equally as nets fabricated from manila rope of the dimensions specified. The mesh shall be arranged not to exceed 15.25 cm. on canters positively and securely attached to avoid wear at each crossing point and at points of contact with the border.

41. Safety nets shall be equipped with adequately padded thimbler sockets or equivalent means of attachments. Supports and anchorages shall be of sufficient size and strength to catch any falling employee. The nets shall be attached to sufficient supports outside and beyond the area of possible fall and supported at sufficient heights to prevent sagging to any solid object beneath when cushioning the fall of an employee.

42. Safety belts, lifelines and safety nets shall be inspected before use and at least once each week thereafter. Defective belts, lines or nets shall be immediately discarded and replaced or repaired before reuse.

Protective Footwear

43. Safety footwear includes steel, reinforced plastic, and hard rubber models, depending on the shoe design protective level required. Some jobs require conductive, nonconductive, foundry, or special-design safety shoes to protect employees from various falling objects, electrical hazards, and molten metal or chemical splashes.

44. Employees shall be provided with approved safety shoes and leg protection whenever necessary as determined by the nature of work. Safety shoes are the best protection against

foot injuries, while leggings and knee, thigh, and leg pads offer protection for the legs. All safety shoes have toes reinforced with a toe cap.

Special Work Clothing

Special protective clothing

45. Special protective clothing is used to shield employees from such workplace hazards as heat, hot metal, chemical splashes, weather extremes, and electric shock or burns. Such clothing includes leather garments, wool and asbestos substitutes, aluminized clothing, flame-resistant or flame-retardant materials, aprons, kneepads, gloves and gauntlets, hand leathers and arm protectors, impervious materials, heat stress and cold-weather clothing, and conductive or nonconductive clothing.

46. Employees who are exposed to specific workplace hazards as indicated in paragraph 45 shall be provided special protective clothing whenever necessary as determined by the nature of work.

Hand and Arm Protection:

47. When selecting gloves, consideration should be given to the hazards to which the wearer may be exposed to and the ease and free movement of the fingers. Gloves torn during use shall be replaced immediately.

48. Gloves shall not be worn by employees operating drills, punch presses or other machinery in which the hand may be caught by moving parts.

49. Gloves, mittens, and leathers or pads for employees handling sharp edged or abrasive objects shall be made of tough materials and where necessary provided with special reinforcement.

50. Gloves, mittens and sleeves for employees handling hot metals shall be made of suitable heat resisting material.

51. Gloves and sleeves for electrical employees shall be made of rubber or other suitable materials conforming with the test requirements on dielectric strength.

52. Gauntlets for employees handling corrosive substances, such as acids and caustics, shall be made of natural rubber, synthetic rubber or pliable plastic material resistant to corrosion.

53. Gauntlets for protecting employees against the action of toxic, irritating or infectious substances shall:

    (1) cover the forearm as much as possible;

    (2) have a close fit at the upper end; and

    (3) not have the slightest break.

Schedule III: Illumination Levels

Illumination Levels

(Lux)	Place	Kind of Work
3000 2000 1500	Control room Factory	**Extremely fine visual works** Extra fine assembling instrument, watch manufacturing, grading etc.
1000 750	Office, Drawing room Factory	**Fine visual works** Long assembling, Fine bench and machine work, Fine inspection, Drafting, Typing/ other prolonged close office desk work
500 300	Office, Meeting room Factory	**Normal visual works** Production line ; Assembling, Inspection, Office desk work, Medium bench and machine work
200 150	Workshop Electricity/machine room	**Rough visual works** Medium assembling, Rough bench and machine work, Rough inspection of testing of products
100 75	Works in warehouse General construction plant Exit/ Entrance passage Locker room, Toilet	**Very rough visual works** Rough assembling, Packaging Tunnel drilling
50 30	Warehouses, Passageways Emergency stairs, Corridor Underground work area	Loading, Unloading, Carrying in warehouse Excavation, Concrete placement
20	Roadways Outside thoroughfares	

***Note**: Illumination of the workplace is measured using the unit called LUX and the instrument used to measure illumination is known as LUX Meter.*

Schedule IV: Permissible Exposure for Occupational Noise

Duration per day, (hours)	Sound Levels, slow response (dBA)
8	85
6	86
4	88
3	89
2	91
1.5	92
1	94
0.5	97
0.25 or less	100

Ceiling value: No exposure in excess of 140dBA is allowed

Schedule V: Permissible Exposure Limits of Certain Toxic Substances in Work Environment

Sl. No.	*Substance*	*Permissible Exposure Limits (PEL)*			
		Long Term		*Short Term**	
		Ppm	*mg/m³*	*ppm*	*mg/m³*
1	Acetaldehyde	100	180	150	270
2	Acetic Acid	10	25	15	37
3	Acetone	750	1780	1000	2375
4	Acrolein	0.1	0.25	0.3	0.8
5	Acrylonitrile-skin (S.C.)	2	4.5	--	--
6	Aldrin-skin	--	0.25	--	0.75
7	Allyl Chloride	1	3	2	6
8	Ammonia	25	18	35	27
9	Aniline-skin	2	10	5	20
10	Anisidine (Pisoners) skin	0.1	0.5	--	--
11	Arsenic and compounds (as As)	--	0.2	--	--
12	Benzene (H.C.)	10	20	25	75
13	Beryllium and compounds (S.C.)	--	0.002	--	--
14	Boron Trifluoride	0.1	0.3	--	--
15	Bromine	0.1	0.7	0.3	2
16	Butane	800	1900	--	--
17	2-Butanon (Methylethyle Ketone-MEK)	200	590	300	885
18	n-Butyl acetate	150	710	200	950
19	n-Butyl alcohol-skin – C	50	150	--	--
20	sec/tert. Butyl acetate	200	950	250	1190
21	Butyl Mercptan	0.5	1.5	--	--

Sl. No.	Substance	Permissible Exposure Limits (PEL)			
		Long Term		Short Term*	
		Ppm	mg/m³	ppm	mg/m³
22	Cadmium-dust and salts (as Cd)	--	0.05	--	0.2
23	Calcium oxide	--	2	--	--
24	Carbaryl (Sevin)	--	5	--	10
25	Carbofuran (Furadan)	--	0.1	--	--
26	Carbon disulphide-skin	10	30	--	--
27	Carbon monoxide	50	40	400	440
28	Carbon tetrachloride-skin (S.C)	5	30	20	125
29	Carbonyl Chloride (Phosgene)	0.1	0.4	--	--
30	Chlorobenzene (monochloro benzene)	75	350	--	--
31	Chlordane –skin	--	0.5	--	2
32	Chlorine	1	3	3	9
33	Chloroform (S.C.)	10	50	50	225
34	bis-Chloromethyl ether (H.C.)	0.001	0.005	--	--
35	Chromic acid and chromates (as Cr)	--	0.05	--	--
36	Chromous Salts (as Cr)	--	0.05	--	--
37	Copper fume	--	0.2	--	--
38	Cotton dust, raw	--	0.2	--	0.6
39	Cresol, all isomers – skin	5	22	--	--
40	Cyanides (as CN)- skin	--	5	--	--
41	Cyanogen	10	20	--	--

Sl. No.	Substance	Permissible Exposure Limits (PEL)			
		Long Term		Short Term*	
		Ppm	mg/m³	ppm	mg/m³
42	DDT (Dichloro-diphenylTrichloro-ethene)	--	1	--	3
43	Demeton-skin	0.01	0.1	0.03	0.3
44	Diazinon-skin	--	0.1	--	0.3
45	DibutylPhythalate	--	5	--	10
46	Dichlorvos (DDVP) – skin	0.1	1	0.3	3
47	Dieldrin-skin	--	0.25	--	0.75
48	Dinitrobenzene (all isomers) – skin	0.15	1	0.5	3
49	Dinitrotoluene – skin	--	1.5	--	5
50	Diophenyl	0.2	1.5	0.6	4
51	Endrin-skin	--	0.1	--	0.3
52	Ethyl acetate	400	1400	--	--
53	Ethyl alcohol	1000	1900	--	--
54	Ethylamin	10	18	--	--
55	Fluorides (as F)	--	2.5	--	--
56	Formaldehyde (S.C.)	1	1.5	2	3
57	Fluorine	1	2	2	4
58	Formic Acid	5	9	--	--
59	Gasoline	300	900	500	1500
60	Hydrogen Chloride – C	5	7	--	--
61	Hydrogen Cyanide-skin-C	10	10	--	--
62	Hydrogen Fluoride (as F)-C	3	2.5	6	5
63	Hydrogen Peroxide	1	1.5	2	3
64	Hydrogen Sulphide	10	14	15	21

Sl. No.	Substance	Permissible Exposure Limits (PEL)			
		Long Term		Short Term*	
		Ppm	mg/m³	ppm	mg/m³
65	Iodine-C	0.1	1	--	--
66	Iron Oxide Fume (Fe_2O_3) (as Fe)	--	5	--	10
67	Isoamyl acetate	100	525	125	655
68	Isoamyl alcohol	100	300	125	450
69	Isobutyl alcohol	50	150	75	225
70	Lead, inorganic, fumes and dusts (as Pb)	--	0.15	--	0.45
71	Lindane-skin	--	0.5	--	1.5
72	Malathion-skin	--	10	--	--
73	Manganese (as Mn) dust and compounds-C	--	5	--	--
74	Fume	--	1	--	0.3
75	Mercury (as Hg)-skin Alkyl compounds	--	0.01	--	0.03
76	All forms except alkyl vapour	--	0.05	--	--
77	Aryl and inorganic compounds	--	0.1	--	--
78	Methyl alcohol (methanol) skin	200	260	250	310
79	Methyl cellosove-skin (2 methoxy ethanol)	5	16	--	--
80	Methyl isobutyl Ketone-skin	50	205	75	300
81	Methyl Isocyanate	0.02	0.05	--	--
82	Naphthalene	10	50	15	75
83	Nickel carbonyl (as Ni)	0.05	0.35	--	--

Sl. No.	Substance	Permissible Exposure Limits (PEL)			
		Long Term		Short Term*	
		Ppm	mg/m³	ppm	mg/m³
84	Nitric acid	2	5	4	10
85	Nitric oxide	25	30	35	45
86	Nitrobenzene –skin	1	5	2	10
87	Nitrogen dioxide	3	6	5	10
88	Oil mist, minerals	--	5	--	10
89	Ozone	0.1	0.2	0.3	0.6
90	Parathion-skin	--	0.1	--	0.3
91	Phenol-skin	5	19	10	38
92	Phorate (Thimet)-skin	--	0.05	--	0.2
93	Phosgone (Carbonyl Chloride)	0.1	0.4	--	--
94	Phosphine	0.3	0.4	1	1
95	Phosphorus (yellow)	--	0.1	--	0.3
96	Phosphorus pentachloride	0.1	1	--	--
97	Phosphorus trichloride	0.2	1.5	0.5	3
98	Picric acid-skin	--	0.1	--	0.3
99.	Pyridine	5	15	10	30
100	Silane (silicon tetrahydride)	5	7	--	--
101	Sodium hydroxide-C	--	2	--	--
102	Styrene, monomer (phanylethylene)	50	215	100	425
103	Sulphur dioxide	2	5	5	10
104	Sulphur hexafluoride	1000	6000	1250	7500
105	Sulphuric acid	--	1	--	--
106	Toluene (Tuluol)	100	375	150	560
107	O-Toluidine-skin-(S.C.)	2	9	--	--
108	Tributyl phosphate	0.2	2.5	0.4	5

Sl. No.	Substance	Permissible Exposure Limits (PEL)			
		Long Term		Short Term*	
		Ppm	mg/m³	ppm	mg/m³
109	Trichloroethylene	50	270	200	1080
110	Uranium, natural (as U)	--	0.2	--	0.5
111	Vinyl chloride (H.C.)	5	10	--	--
112	Welding fumes	--	5	--	--
113	Xylene (o-, m-, P-isomers)	100	435	150	655
114	Zinc Oxide				
	(i) Fume	-	5	-	10
	(ii) Dust (Total Dust)	-	10	-	-
115	Zirconium compounds (as Zr)	--	5	--	10

*Lint-free dust as measured by the vertical elutriator cotton-dust sampler.

ppm: parts of vapour or gas per million parts of contaminated air by volume at 25^0C and 760 mm of HG.

mg/m^3: milligram of substance per cubic meter of air

*: Not more than 4 times a day with at least 60 min interval between successive exposures

** : $mg/m^3 = \frac{\text{Molecular Weight}}{24.45} \times \text{ppm}$

C: denotes Ceiling Limit

Skin: denotes potential contribution to the overall exposure by the cutaneous route including mucous membranes and eye.

S.C: denotes Suspected Human Carcinogen

H.C: denotes Confirmed Human Carcinogen.

Substance	PEL (Long Term)
1. Silica SiO2	
(a) Crystalline	
(i) Quartz	
(1) In terms of dust count	$\frac{10600}{\%\ \text{Quartz} + 10}$ mppcm.
(2) In terms of respirable dust	$\frac{10}{\%\text{Respirable quartz} + 2}$ mg/m3
(3) In terms of total dust	$\frac{30}{\%\text{Quartz} + 3}$ mg / m^3
(ii)Cristobalite	Half the limits given against quartz.
(iii) Tridymite	Half the limits given against quartz
(iv) Silica fused	Same limits as for quartz.
(v) Tripoli	Same limits as in formula in item 2 given against quartz.
(b) Amorphous Silicates:	10mg/m3 total dust
(Asbestos (H.C.):	
(i) Amosite	0.5 fibre/cc***

(ii) Chrysotile 1.0 fibre/cc***

(iii) Crysodolite 0.2 fibre/cc***

*** (i) For fibres greater than 5m in length and less than 5m in breadth with length to breadth ratio equal to or greater than 3:1.

(ii) As determined by the membrane filter method at 400-450 x magnification (4mm objective) phase contrast illumination.)

Portland Cement: 10mg/m_3, total dust containing less than 1% quartz Coal Dust.

: 2mg/m_3, respirable dust fraction containing less than 5% quartz.

mppcm = Million particles per cubic meter of air, based on impinger samples counted by light-field techniques.

* As determined by the membrane filter method at 400-450 x magnification (4 mm objective) phase contrast illumination.

2. Coal dust

(1) For airborne dust having less than 5% silicon dioxide by weight	2mg/m3
(2) For airborne dust having over 5% silicon dioxide	Same limit as prescribed by formulas in item (2) against quartz.

3. Dust*:

a) Respirable Dust-5mg/m^3

b) Total Dust-10mg/ms

*Dust means whether mineral, inorganic, or organic dust not listed specifically by substance name in this table.

Note: This schedule on permissible limits of certain chemical substances in work environment is subjected to change as an when deemed necessary.

Schedule VI: Dangerous Parts of Machinery or Plant

1. Revolving shafts, couplings, spindles, mandrels, bars and flywheels.
2. In-running nips between pairs of rotating parts.
3. In-running nips of the belt and pulley type.
4. Projections on revolving parts.
5. Discontinuous rotating parts.
6. Revolving beaters, spiked cylinders and revolving drums.
7. Revolving mixer arms in casings fitted with openings.
8. Revolving worms and spirals in casings fitted with openings.
9. Revolving high-speed cages in casings fitted with openings.
10. Revolving cutting tools.
11. Reciprocating cutting tools.
12. Reciprocating press tools and dies.
13. Reciprocating needles.
14. Closing nips between platen motions.
15. Projecting belt fasteners and fast running belts.
16. Nips between connecting rods or links, and rotating wheel cranks or discs.
17. Traps arising from the traversing carriages of self-acting machines.

Schedule VII: Safety Data Sheet

The SDS of any chemicals used in workplace should be maintained at the workplace by the employer. The SDS should contain the following information but not limited to:

SDS Format:

1. Identification
2. Hazard Identification
3. Composition/Information on ingredients
4. First-aid measures
5. Fire-fighting measures
6. Accidental release measures
7. Exposure controls/personal protection
8. Physical and chemical properties
9. Stability and reactivity
10. Toxicological Information
11. Ecological Information
12. Disposal Considerations
13. Transport Information
14. Regulatory Information
15. Other Information

Minimum Information for SDS:

1. Identification of the substance/mixture and of the supplier;
2. GHS Product Identifier;
3. Other means of identification;
4. Recommended use of the chemical and restrictions on use;
5. Supplier's details (name, address, phone number, etc);
6. Emergency phone number;
7. Hazard Identification;
8. GHS classification of the substance/mixture and any national or regional information;
9. GHS label elements, including precautionary statements. Hazard symbols may be provided as a graphical reproduction of the symbols in the black and white or the name of the symbol (e.g. "flame", "skull and crossbones");
10. Other hazards which do not result in the classification (e.g. "dust explosion hazard") or are not covered by the GHS;
11. Composition information on ingredients;
12. Substance;
13. Chemical identity;
14. Common name, synonyms, etc.;
15. CAS number, EC number, and other unique identifiers;
16. Impurities and stabilizing additives which are themselves classified and which contribute to the classification of a substance;

17. Mixture;
18. The chemical identity and concentration or concentration ranges of all ingredients which are hazardous within the meaning of the GHS and are present above their cut-off levels;
19. Cutoff level for reproductive toxicity, carcinogenicity, and category 1 mutagenicity is ≥ 0.1%;
20. Cutoff level for all other hazard classes is ≥ 1%;
21. First Aid measures;
22. Description of necessary measures, subdivided according to the different routes of exposure (i.e. inhalation, skin and eye contact, and ingestion);
23. Most important symptoms/effects, acute and delayed;
24. Indication of immediate medical attention and special treatment needed, if necessary;
25. Fire-fighting measures;
26. Suitable (and unsuitable) extinguishing media;
27. Specific hazards arising from the chemical (e.g. nature of any hazardous combustion products);
28. Special protective equipment and precautions for fire-fighters;
29. Accidental release measures;
30. Personal precautions, protective equipment, and emergency procedures;
31. Environmental precautions;

32. Methods and materials for containment and cleaning up;
33. Handling and storage;
34. Precautions for safe handling;
35. Conditions for safe storage, including any incompatibilities;
36. Exposure controls/Personal protection;
37. Control parameters (e.g. occupational exposure limit values or biological limit values);
38. Appropriate engineering controls;
39. Individual protection measures, such as personal protective equipment;
40. Physical and chemical properties;
41. Appearance (physical state, color, etc);
42. Odor;
43. Odor threshold;
44. pH;
45. Melting point/freezing point;
46. Initial boiling point and boiling range;
47. Flash point;
48. Evaporation rate;
49. Flammability (solid, gas);
50. Upper/lower flammability or explosive limits;
51. Vapor pressure;
52. Vapor density;

53. Relative density;
54. Solubility;
55. Partition coefficient: n-octanol/water;
56. Auto-ignition temperature;
57. Decomposition temperature;
58. Stability and reactivity;
59. Chemical stability;
60. Possibility of hazardous reactions;
61. Conditions to avoid (e.g. static discharge, shock, or vibration);
62. Incompatible materials;
63. Hazardous decomposition products;
64. Toxicological information;
65. Information on the likely routes of exposure (inhalation,ingestion, skin, and eye contact);
66. Symptoms related to the physical, chemical, and toxicological characteristics;
67. Delayed and immediate effects and also chronic effects from short- and long-term exposure;
68. Numerical measures of toxicity (such as acute toxicity estimates);
69. Ecological information;
70. Ecotoxicity (aquatic and terrestrial, where available);
71. Persistence and degradability;
72. Bioaccumulative potential;

73. Mobility in the soil;
74. Other adverse effects;
75. Disposal considerations – description of waste resides and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging;
76. Transport information;
77. UN number;
78. UN proper shipping name;
79. Transport hazard class(es);
80. Packing group, if applicable;
81. Environmental hazards (e.g. marine pollutant (yes/no));
82. Transport in bulk;
83. Special precautions which a user needs to be aware of, or needs to comply with, in connection with the transport or conveyance within or outside their premises;
84. Regulatory information: The Health, Safety, and environmental regulations specific for the product in question; and
85. Other information including information on preparation and revision of the SDS.

Globally Harmonized System (GHS)

In addition, the employer shall use Globally Harmonized System (GHS) for classification and labelling of chemicals as follows:

Elements of GHS:

1. Hazard classification and labelling
2. Hazard communication

Globally Harmonized System for chemical labelling should consist of the following:

1. Symbol
2. Signal word
3. Hazard statement

Labelling Chemical Substances for Hazard Communication:

Labelling Type	Category 1	Category 2
Symbol	Flame	Flame
Signal Word	Danger	Warning
Hazard Statement	Extremely flammable liquid	Flammable liquid and vapour

Schedule VIII: List of Industries Involving Hazardous Processes

1. Ferrous Metallurgical Industries
   - (1) Integrated Iron and Steel
   - (2) Ferro-alloys
   - (3) Special Steels
2. Non-ferrous Metallurgical Industries
   - (1) Primary Metallurgical Industries, namely, zinc, lead, copper, manganese and aluminium.
3. Foundries (ferrous and non-ferrous)
   - (1) Castings and forgings including cleaning or smoothening/roughening by sand and shot blasting.
4. Coal (including coke) Industries
   - (1) Coal, lignite, coke and like other substances
   - (2) Fuel gases (including coal gas, producer gas, water gas).
5. Power Generating Industries.
6. Pulp and Paper (including paper products) Industries.
7. Fertiliser Industries
   - (1) Nitrogenous
   - (2) Phosphatic
8. Cement Industries
   - (1) Portland Cement (including slag cement, puzzolona cement and their products).
9. Petroleum Industries

(1) Oil refining

(2) Lubricating oils and greases.

10. Petro-chemical Industries

11. Drugs and Pharmaceutical Industries

(1) Narcotics, drugs and pharmaceuticals.

12. Fermentation Industries (Distilleries and Breweries)

13. Rubber (Synthetic) Industries

14. Paints and Pigment Industries

15. Leather Tanning Industries

16. Electro-plating Industries

17. Chemical Industries

(1) Coke oven by-products and coaltar distillation products;

(2) Industrial gases (nitrogen, oxygen, acetylene, argon, carbon dioxide, hydrogen, sulphur dioxide, nitrous oxide, halogenated hydrocarbon, ozone, or any like gases);

(3) Industrial carbon;

(4) Alkalies and acids;

(5) Chromates and dichromates;

(6) Lead and its compounds;

(7) Electrochemicals (metallic sodium, potassium and magnesium, chlorates, perchlorates and peroxides);

(8) Electrothermal produces (artificial abrasive, calcium carbide);

(9) Nitrogenous compounds (cyanides, cyanamides and other nitrogenous compounds);

(10) Phosphorous and its compounds;

(11) Halogens and halogenated compounds (Chlorine, fluorine, bromine and iodine);

(12) Explosives (including industrial explosives and detonators and fuses).

18. Insecticides, Fungicides, Herbicides and other Pesticides Industries.

19. Synthetic Resin and Plastics.

20. Man made Fibre (Cellulosic and non-cellulosic) Industry.

21. Manufacture and Repair of Electrical Accumulators.

22. Glass and Ceramics.

23. Grinding or glazing of metals.

24. Manufacture, handling and processing of asbestos and its products.

25. Extraction of oils and fats from vegetable and animal sources.

26. Manufacture, handling and use of benzene and substances containing benzene.

27. Manufacturing processes and operations involving carbon disulphide.

28. Dyes and Dyestuff including their intermediates.

29. Highly flammable liquids and gases.

30. Printing and dyeing on fabrics in textiles and plywood and laminate manufacturing process.

31. Process involving usage of radium or radioactive substances.
32. Stone Crushing Industry
33. Extraction of oil and raw material from the scrap tyres.
34. Cigarette Manufacturing Industry
35. Ship Breaking Industry
36. Hazardous waste and e-waste processing plants
37. Semiconductor Manufacturing Industry
38. Styrene manufacturing, handling and processing Industry.
39. Nano-particles Utilising industry
40. Manufacturing, processing, preparation and utilisation of mercury or compounds of mercury, lead tetra-ethyl, manganese, arsenic, chrome, aliphatic series, beryllium, phosgene and isocyanates.

Schedule IX: Fire Extinguisher Classification

All places of employment, including those where automatic-sprinkler protection system is installed, shall be provided with portable fire extinguishers for protection against incipient fires.

Selection of Fire Extinguisher

1. Extinguishers shall be selected for the specific class or classes or hazards to be protected against in accordance with the following:

    (1) extinguishers for Class "A" hazards, such as wood, cloth, paper, rubber and other similar ordinary materials, shall be selected from foam, loaded stream, multipurpose dry chemical and water types;

    (2) extinguishers for Class "B" hazards, fires in flammable liquids, gases and greases, shall be selected from carbon dioxide, dry chemical, foam, loaded stream and multipurpose dry chemicals;

    (3) extinguishers for Class "C" hazards, fires which involve energized electrical equipment where the electrical non-conductivity of the extinguishing media of importance, shall be selected from carbon dioxide, dry chemicals, and multi-purpose dry chemicals. When the electrical energy is disconnected, Class "C" fire may be treated as either Class "A" or Class "B";

    (4) extinguishers for protection of Class "D" hazards fire in combustible metals, such as magnesium, titanium, zirconium, sodium and potassium, shall be of types approved for use on the specific combustible metal

hazard. Only suitable dry powder extinguishers shall be used for metal fires;

(5) toxic vaporizing extinguisher is not recommended for any type of fire;

(6) extinguishers which need to be inverted to operate are not recommended for use; and

(7) soda acid fire extinguisher is not recommended for use.

Distribution of Fire Extinguishers

2. Extinguishers for light hazards Class "A" fires, where the amount of combustible or flammable materials present are of such quantity that fires of small size may be expected in offices, schoolrooms, assembly halls and other similar places shall be located such that a person will not travel more than 30 m from any point to reach the nearest extinguisher. One unit of five to six quarts (1 1/4 to 1 1/2 gal.) foam extinguisher for every 250m^2 of floor area or a greater fraction thereof shall be provided.

3. Extinguishers for ordinary hazards Class "A" fires, where the amount of combustible of flammable material present are such that fires of moderate size may be expected in mercantile storage and displays auto showrooms, parking garages, light manufacturing warehouses not classified as extra hazard, school shops and other similar places shall be provided and located such that a person will not travel for more than 15 m from any point to reach the nearest extinguishing capacity for every 125m^2 of floor area or a greater fraction thereof.

4. Extinguishers for extra hazard Class "B" fires, where the amount of combustible or flammable materials present is such that fires of severe magnitude may be expected in woodworking auto repair, air craft servicing, warehouses with high piled (5 m or over) combustible processes, such as flammable liquid handling, painting and other similar areas shall be provided with a 2.7kg dry chemical for every 60m^2meter of floor area or a greater fraction thereof.

5. For deep-layer flammable liquid Class "B" fires in deep or quench tanks, at least one numerical unit of extinguishing potential shall be provided for every 60$m^2$of floor area or a greater fraction thereof. The travel distance to reach the nearest extinguisher shall not be more than 15 m. Multiple smaller extinguishers shall not be used in lieu of larger units required.

6. Extinguishers suitable for Class "B" fires are not acceptable in lieu of the required extinguishers for Class "A" fires unless it has also a Class "A" rating. An extinguisher carrying both Class "A" and "B" ratings may be accepted for area requirements under each individual letter classification and at the numerical rating for that class.

7. Extinguishers with Class "C" rating shall be required where energized electrical equipment may be encountered. The size and location shall be on the basis of the anticipated Class "A" or "B" hazards.

8. Extinguishers shall have a durable tag securely attached to show the maintenance and re-charge data and containing the signatures of persons performing the service.

9. Extinguishers shall be properly marked to indicate the suitability of the extinguishers for any particular class of fires.

Schedule X: First Aid and Medical Surveillance and Examinations.

A. First Aid

The first aid boxes or cup-boards shall be distinctively marked with a white cross on a green background and shall contain the following equipments:

Basic first aid Kit

Sl. No.	Items	Quantity
1	Small sterilized dressings	6
2	(1/2oz.) Sterilized cotton wool	2
3	(2oz.) Bottle containing Betadine (antiseptic solution) having the dose and mode of administration indicated on the label	1
4	Roll of adhesive plaster	1
5	pair of scissors	1
6	Bandages 2 inches wide	2 rolls
7	Triangular bandages	2

The content of the first aid box in hazardous workplaces shall be as per Table 3 below:

Table 3:Content of First Aid Box

Sl. No.	Items	No. of Employee	
		1- 50	> 51

Sl. No.	Items	No. of Employee	
		1- 50	> 51
1	Small sterilized dressings	12	24
2	Medium size sterilized dressings	6	12
3	Large size sterilized dressing	6	12
4	Large size sterilized burn dressings	6	12
5	(1/2oz.) Sterilized cotton wool	6 packets	12 packets
6	(2oz.) Bottle containing a two per cent alcoholic solution of iodine	1	2
7	(2oz.) Bottle containing Betadine (antiseptic solution) having the dose and mode of administration indicated on the label	1	2
8	Roll of adhesive plaster	1	2
9	A snake bite lancet	1	1
10	Torch light	1	1
11	Pair of scissors	1	1
12	Tablets Aspirin (5gms)	2 dozen	4 dozen
13	Burn ointment	2 tubes	4 tubes
14	Dettol	2 phial (about2 ozs)	4 phial
15	Bandages 4 inches wide		12 rolls

Sl. No.	Items	No. of Employee	
		1- 50	> 51
16	Bandages 2 inches wide		12 rolls
17	Triangular bandages	2	6
18	Packets of safety pins	1	2
19	A supply of suitable splint		Yes
20	Tourniquet		1

B. Occupational Health Room

The Occupational Health Room shall be separated from the rest of the factory and shall be used only for the purpose of first aid treatment and rest. It shall have a floor area of at least 25m^2 with smooth, hard and impervious walls and floor and shall be adequately ventilated and lighted by both natural and artificial means. An adequate supply of safe drinking water shall be provided and the room shall contain at least:

1. A glazed sink with hot and cold water always available;
2. A table with a smooth top at least 180cm x 105cm;
3. Means for sterilizing instruments;
4. A couch;
5. Two stretchers;
6. Two buckets or containers with close fitting lids;
7. Two rubber hot water bags;
8. A kettle or other suitable means of boiling water;

9. Twelve plain wooden splints 36" x 4" x ¼";
10. Twelve plain wooden splints 14" x 3" x ¼";
11. Six plain wooden splints 10" x 2" x ½";
12. Six woolen blankets;
13. One pair artery forceps;
14. Two medium size sponges;
15. Six hand towels;
16. Four "kidney" trays;
17. Four cakes carbolic soap;
18. Two glass tumblers and two wine glasses;
19. Two clinical thermometers;
20. The Graduated measuring glass (120ml) with two teaspoons;
21. One eye bath;
22. One bottle (2 lbs) carbolic lotion 1 in 20;
23. One screen;
24. Three chairs;
25. One electric hand torch;
26. Four first aid boxes or cupboards stocked to the standards prescribed under item (ii) above;
27. Tablets – antihistaminic antispasmodic 25 each;
28. Syringes with needles – 2cc, 5cc, 10cc and 50 cc;
29. Two needle holders, big and small;
30. Suturing needles and materials;

31. Three dissecting forceps;
32. One scalpel;
33. One stethoscope;
34. One blood pressure measuring instrument;
35. Oxygen cylinder with necessary attachments; and
36. Any other equipment or appliance recommended by the qualified medical professional.

The employer at every workplace to which this Regulation apply shall for the purpose of removing serious cases of accident or sickness, provide in the premises and maintain in good condition a suitable conveyance unless he has made arrangements for obtaining such a conveyance from a hospital.
A record of all cases of accident and sickness treated at the room shall be kept and produced to the Inspector when required.

C. Medical Surveillance and Examinations

Medical Examination	Requirement	Periodicity
Pre-employment exam	Yes	
Periodic exam	Yes	6 months
Emergency/exposure examination and tests	Yes	As required by qualified medical professional
Post-employment exam	Yes	

Medical Examination	Requirement	Periodicity
Examination includes special emphasis on these body systems	Respiratory, gastrointestinal, thyroid, skin, neuro- logical (peripheral and central)	As required by qualified medical professional
Work and medical history	Yes	
Chest X-ray	Yes	As required by qualified medical professional
Pulmonary function test (PFT)	Yes	As required by qualified medical professional
Audiometry	Work at >85 dBA	Yearly
Other required lab tests (blood, urine, sputum, hair, skin scrapings, HPE etc.)	Yes	As required by qualified medical professional
Additional tests if deemed necessary	Yes	As required by qualified medical professional

Medical Examination	Requirement	Periodicity
Written medical opinion	Yes – physician to employer & employee	
Employee counseling, reexamination, conditions of increased risk	Yes – by physician	
Medical removal plan	Yes	

Schedule XI: Dangerous Occurrences

The following classes of dangerous occurrence, whether or not they are attended by personal injury disablement:

1. Bursting of a plant used for containing or supplying steam under pressure greater than atmospheric pressure.
2. Collapse or failure of a crane, derrick, which hoist or other appliances used in raising or lowering persons or goods, or any part thereof, or the overturning of a crane.
3. Explosion fire, bursting out leakage or escape of any molten metal, or hot liquor or gas causing bodily injury to any person or damage to any room or place in which persons are employed, or fire in rooms of cotton pressing factories when a cotton opener is in use.
4. Explosion of a receiver or container used for the storage at a pressure greater than atmospheric pressure of any gas or gases (including air) or any liquid or solid resulting from the compression of gas.
5. Collapse or subsidence of any floor, gallery, roof, bridge, tunnel, chimney, wall, building or any other structure.

Schedule XII: List of Reportable Occupational Diseases

1. Occupational diseases caused by exposure to agents arising from work activities

1.1. Diseases caused by chemical agents

1.1.1 Diseases caused by beryllium or its compounds
1.1.2 Diseases caused by cadmium or its compounds
1.1.3 Diseases caused by phosphorus or its compounds
1.1.4 Diseases caused by chromium or its compounds
1.1.5 Diseases caused by manganese or its compounds
1.1.6 Diseases caused by arsenic or its compounds
1.1.7 Diseases caused by mercury or its compounds
1.1.8 Diseases caused by lead or its compounds
1.1.9 Diseases caused by fluorine or its compounds
1.1.10 Diseases caused by carbon disulfide
1.1.11 Diseases caused by halogen derivatives of aliphatic or aromatic hydrocarbons
1.1.12 Diseases caused by benzene or its homologues
1.1.13 Diseases caused by nitro- and amino-derivatives of benzene or its homologues
1.1.14 Diseases caused by nitroglycerine or other nitric acid esters
1.1.15 Diseases caused by alcohols, glycols or ketones
1.1.16 Diseases caused by asphyxiants like carbon monoxide, hydrogen sulfide, hydrogen cyanide or its derivatives
1.1.17 Diseases caused by acrylonitrile
1.1.18 Diseases caused by oxides of nitrogen
1.1.19 Diseases caused by vanadium or its compounds
1.1.20 Diseases caused by antimony or its compounds
1.1.21 Diseases caused by hexane
1.1.22 Diseases caused by mineral acids
1.1.23 Diseases caused by pharmaceutical agents

1.1.24 Diseases caused by nickel or its compounds
1.1.25 Diseases caused by thallium or its compounds
1.1.26 Diseases caused by osmium or its compounds
1.1.27 Diseases caused by selenium or its compounds
1.1.28 Diseases caused by copper or its compounds
1.1.29 Diseases caused by platinum or its compounds
1.1.30 Diseases caused by tin or its compounds
1.1.31 Diseases caused by zinc or its compounds
1.1.32 Diseases caused by phosgene
1.1.33 Diseases caused by corneal irritants like benzoquinone
1.1.34 Diseases caused by ammonia
1.1.35 Diseases caused by isocyanates
1.1.36 Diseases caused by pesticides
1.1.37 Diseases caused by sulphur oxide
1.1.38 Diseases caused by organic solvents
1.1.39 Diseases caused by latex or latex-containing products
1.1.40 Diseases caused by chlorine
1.1.41 Diseases caused by other chemical agents at work not mentioned in the preceding items where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to these chemical agents arising from work activities and the disease(s) contracted by the employee

1.2. Diseases caused by physical agents

1.2.1 Hearing impairment caused by noise
1.2.2 Diseases caused by vibration (disorders of muscles, tendons, bones, joints, peripheral blood vessels or peripheral nerves)
1.2.3 Diseases caused by compressed or decompressed air
1.2.4 Diseases caused by ionizing radiations
1.2.5 Diseases caused by optical (ultraviolet, visible light, infrared) radiations including laser

1.2.6 Diseases caused by exposure to extreme temperatures

1.2.7 Diseases caused by other physical agents at work not mentioned in the preceding items where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to these physical agents arising from work activities and the disease(s) contracted by the employee.

1.3. Biological agents and infectious or parasitic diseases

1.3.1 Brucellosis

1.3.2 Hepatitis viruses

1.3.3 Human immunodeficiency virus (HIV)

1.3.4 Tetanus

1.3.5 Tuberculosis

1.3.6 Toxic or inflammatory syndromes associated with bacterial or fungal contaminants

1.3.7 Anthrax

1.3.8 Leptospirosis

1.3.9 Diseases caused by other biological agents at work not mentioned in the preceding items where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to these biological agents arising from work activities and the disease(s) contracted by the employee

2. Occupational diseases by target organ systems

2.1. Respiratory diseases

2.1.1 Pneumoconioses caused by fibrogenic mineral dust (silicosis, anthraco-silicosis, asbestosis)

2.1.2 Silicotuberculosis

2.1.3 Pneumoconioses caused by non-fibrogenic mineral dust

2.1.4 Siderosis

2.1.5 Bronchopulmonary diseases caused by hard-metal dust

2.1.6 Bronchopulmonary diseases caused by dust of cotton (byssinosis), flax, hemp, sisal or sugar cane (bagassosis)

2.1.7. Asthma caused by recognized sensitizing agents or irritants inherent to the work process

2.1.8. Extrinsic allergic alveolitis caused by the inhalation of organic dusts or microbially contaminated aerosols, arising from work activities

2.1.9. Chronic obstructive pulmonary diseases caused by inhalation of coal dust, dust from stone quarries, wood dust, dust from cereals and agricultural work, dust in animal stables, dust from textiles, and paper dust, arising from work activities

2.1.10. Diseases of the lung caused by aluminium

2.1.11. Upper airways disorders caused by recognized sensitizing agents or irritants inherent to the work process

2.1.12. Other respiratory diseases not mentioned in the preceding items where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to risk factors arising from work activities and the disease(s) contracted by the employee

2.2. Skin diseases

2.2.1. Allergic contact dermatoses and contact urticaria caused by other recognized allergy- provoking agents arising from work activities not included in other items

2.2.2. Irritant contact dermatoses caused by other recognized irritant agents arising from work activities not included in other items

2.2.3. Vitiligo caused by other recognized agents arising from work activities not included in other items

2.2.4. Other skin diseases caused by physical, chemical or biological agents at work not included under other items

where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to risk factors arising from work activities and the skin disease(s) contracted by the employee

2.3. Musculoskeletal disorders

2.3.1 Radial styloid tenosynovitis due to repetitive movements, forceful exertions and extreme postures of the wrist

2.3.2 Chronic tenosynovitis of hand and wrist due to repetitive movements, forceful exertions and extreme postures of the wrist

2.3.3 Olecranon bursitis due to prolonged pressure of the elbow region

2.3.4 Prepatellar bursitis due to prolonged stay in kneeling position

2.3.5. Epicondylitis due to repetitive forceful work

2.3.6. Meniscus lesions following extended periods of work in a kneeling or squatting position

2.3.7. Carpal tunnel syndrome due to extended periods of repetitive forceful work, work involving vibration, extreme postures of the wrist, or a combination of the three

2.3.8. Other musculoskeletal disorders not mentioned in the preceding items where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to risk factors arising from work activities and the musculoskeletal disorder(s) contracted by the employee

2.4. Mental and behavioural disorders

2.4.1. Post-traumatic stress disorder

2.4.2. Other mental or behavioural disorders not mentioned in the preceding item where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to risk factors arising from work activities and the mental and behavioural disorder(s) contracted by the employee

3. Occupational cancer

3.1. Cancer caused by the following agents

3.1.1. Asbestos
3.1.2. Benzidine and its salts
3.1.3. Bis-chloromethyl ether (BCME)
3.1.4. Chromium VI compounds
3.1.5. Coal tars, coal tar pitches or soots
3.1.6. Beta-naphthylamine
3.1.7. Vinyl chloride
3.1.8. Benzene
3.1.9. Toxic nitro- and amino-derivatives of benzene or its homologues
3.1.10. Ionizing radiations
3.1.11. Tar, pitch, bitumen, mineral oil, anthracene, or the compounds, products or residues of these substances
3.1.12. Coke oven emissions
3.1.13. Nickel compounds
3.1.14. Wood dust
3.1.15. Arsenic and its compounds
3.1.16. Beryllium and its compounds
3.1.17. Cadmium and its compounds
3.1.18. Erionite
3.1.19. Ethylene oxide
3.1.20. Hepatitis B virus (HBV) and hepatitis C virus (HCV)

3.1.21. Cancers caused by other agents at work not mentioned in the preceding items where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to these agents arising from work activities and the cancer(s) contracted by the employee.

4. Other diseases

4.1. Miners' nystagmus

4.2. Other specific diseases caused by occupations or processes not mentioned in this list where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure arising from work activities and the disease(s) contracted by the employee.

Schedule XIII: Injuries deemed to result in Total Permanent and Partial Permanent Disablement

Sl. No.	Injury	Percentage of loss of earning Capacity
	Total Permanent Disablement	
1	Loss of 2 limbs	100
2	Loss of both hands or of all fingers and both thumbs	100
3	Loss of both feet	100
4	Total loss of sight, including the loss of sight to such extent as to render the claimant unable to perform any work for which eyesight is essential	100
5	Total paralysis	100
6	Injuries resulting in being permanently bedridden	100
7	Any other injury causing permanent total incapacity	100
	Partial Permanent Disablement	
8	Loss of arm at shoulder	75
9	Loss of arm between elbow and shoulder	75
10	Loss of arm at elbow	75
11	Loss of arm between wrist and elbow	70
12	Loss of hand at wrist	70
13	Loss of 4 fingers and thumb of one hand	70
14	Loss of 4 fingers	60
15	Loss of thumb:	
	(a) both phalanges	30
	(b)one phalanx	20
16	Loss of index finger:	
	(a) 3 phalanges	14

Sl. No.	Injury	Percentage of loss of earning Capacity
	(b) 2 phalanges	11
	(c) one phalanx	9
17	Loss of middle finger:	
	(a) 3 phalanges	12
	(b) 2 phalanges	9
	(c) one phalanx	7
18	Loss of ring finger:	
	(a) 3 phalanges	7
	(b) 2 phalanges	6
	(c) one phalanx	5
19	Loss of little finger:	
	(a) 3 phalanges	7
	(b) 2 phalanges	6
	(c) one phalanx	5
20	Loss of metacarpals:	
	(a) first or second (additional)	8
	(b) third, fourth or fifth (additional)	3
21	Loss of leg:	
	(a) at or above knee	75
	(b) below knee	65
22	Loss of foot	55
23	Loss of toes:	
	(a) all of one foot	20
	(b) great, both phalanges	14
	(c) great, one phalanx	3
	(d) other than great, if more than one toe lost, each	3
24.	Loss of sight of one eye	50

Sl. No.	Injury	Percentage of loss of earning Capacity
25.	Loss of hearing, one ear	30
26.	Total loss of hearing	60

Schedule XIV: Age and Appropriate Factor (for njuries deemed to result in Permanent and Partial incapacity)

Age	Age multiplying factor
14	181
15	180
16	179
17	178
18	177
19	176
20	175
21	174
22	173
23	172
24	170
25	169
26	168
27	167
28	165
29	164
30	167
31	162
32	160
33	159
34	157
35	155
36	153
37	151
38	149
39	146
40	144

Age	Age multiplying factor
41	142
42	140
43	136
44	134
45	132
46	130
47	128
48	126
49	124
50	122
51	126
52	120
53	118
54	116
55	114
56	111
57	108
58	105
59	102
60	99
61	96
62	92
63	87
64	82
65	77
66 and above	72

Schedule XV: Age and Appropriate Factor (For Death Compensation)

Age	Age multiplying factor
18 and below	134
19	133
20	132
21	132
22	131
23	130
24	129
25	128
26	127
27	127
28	125
29	124
30	123
31	122
32	121
33	120
34	118
35	117
36	115
37	114
38	112

Age	Age multiplying factor
39	110
40	108
41	107
42	106
43	105
44	104
45	103
46	102
47	101
48	100
49	98
50	96
51	94
52	92
53	90
54	88
55	86
56	84
57	82
58	80
59 and above	78

Schedule XVI: Occupational Diseases

Sl. No.	Description of occupational disease or injury	Nature of occupation	Period
1	Anthrax	Any occupation involving exposure to animals infected with the anthrax spores or bacteria, tissues or products of infected animals, or any material or substance containing the anthrax spores or bacteria.	12 months
2	Asbestosis	Any occupation involving exposure to asbestos fibre.	3 years
3	Barotrauma	Any occupation involving exposure to compressed air.	12 months
4	Byssinosis	Any occupation involving exposure to raw cotton fibre.	
5	Cataracts due to infra-red, ultraviolet or X-ray radiation	Any occupation involving frequent or prolonged exposure to infra-red, ultraviolet or X-ray radiation.	12 months
6	Compressed Air Illness or its sequelae, including dysbaric osteonecrosis	Any occupation involving exposure to compressed air.	12 months
7	Diseases caused by ionizing radiation	Any occupation involving 12 months exposure to ionizing particles from radioisotopes or irradiation apparatus	

Sl. No.	Description of occupational disease or injury	Nature of occupation	Period
8	Diseases caused by excessive heat	Any occupation involving exposure to excessive heat.	12 months
9	Glanders	Any occupation involving exposure to animals infected with the Burkholderia mallei bacterium, tissues of infected animals, or any material or substance containing the Burkholderia mallei bacterium.	12 months
10	Leptospirosis or its sequelae	Any occupation involving exposure to animals infected or environment contaminated with the Leptospira bacteria, or any material or substance containing the Leptospira bacteria.	12 months
11	Liver Angiosarcoma	Any occupation involving exposure to vinyl chloride monomer or arsenic.	12 months
12	Mesothelioma	Any occupation involving exposure to asbestos fibre.	12 months
13	Musculoskeletal disorders of the upper limb	Any occupation involving exposure to occupational risk factors involving repetitive motion, forceful exertion, awkward postures or vibration, affecting the upper limbs.	12 months
14	Noise-Induced Deafness	Any occupation involving prolonged exposure to	12 months

Sl. No.	Description of occupational disease or injury	Nature of occupation	Period
		excessive noise.	
15	Occupational Asthma	Any occupation involving exposure to any chemical or other agent which is known to irritate or sensitise the respiratory system.	12 months
16	Occupational skin cancers	Any occupation involving exposure to polycyclic hydrocarbons, tar, pitch, bitumen, mineral oil (including paraffin), soot or arsenicals, or any compound, product, or residue of any of these substances, or to ultraviolet radiation	12 months
17	Occupational skin diseases	Any occupation involving exposure to any skin irritant or sensitizer or any other agent which is known to damage skin.	12 months
18	Poisoning by:	Any occupation involving exposure to —	12 months
	(a) Arsenic	arsenic or any of its compounds, or any mixture or solution containing arsenic or any of its compounds;	12 months
	(b) Benzene or a homologue of benzene	benzene or any of its homologues, or any mixture or solution containing benzene or any of its homologues;	12 months

Sl. No.	Description of occupational disease or injury	Nature of occupation	Period
	(c) Cadmium	cadmium or any of its compounds, or any mixture or solution containing cadmium or any of its compounds;	12 months
	(d) Carbamates	carbamate, or any mixture or solution containing any carbamate;	12 months
	(e) Carbon disulphide	carbon disulphide or any of its compounds, or any mixture or solution containing carbon disulphide or any of its compounds;	12 months
	(f) Carbon dioxide gas	excessive levels of carbon dioxide;	12 months
	(g) Carbon monoxide gas	excessive levels of carbon monoxide;	12 months
	(h) Cyanide	cyanide, or any mixture or solution containing any cyanide;	12 months
	(i) Halogen derivatives of hydrocarbon compounds	any halogen derivative of hydrocarbon compounds or any mixture or solution containing any halogen derivative of hydrocarbon compounds;	12 months
	(j) Hydrogen sulphide	hydrogen sulphide;	12 months
	(k) Lead	lead, or any of its compounds, or any mixture or	12 months

Sl. No.	Description of occupational disease or injury	Nature of occupation	Period
		solution containing lead or any of its compounds;	
	(l) Manganese	manganese or any of its compounds, or any mixture or solution containing manganese or any of its compounds;	12 months
	(m) Mercury	mercury or any of its compounds, or any mixture or solution containing mercury or any of its compounds;	12 months
	(n) Oxides of nitrogen	excessive levels of oxides of nitrogen;	12 months
	(o) Organophosphates	organophosphates;	12 months
	(p) Phosphorus	phosphorus or any of its compounds, or any mixture or solution containing phosphorus.	12 months
19	Silicosis	Any occupation involving exposure to silica dust.	3 years
20	Toxic hepatitis	Any process involving exposure to tetrachloroethane, nitro-derivatives or amino-derivatives of benzene or vinyl chloride monomer.	12 months
21	Tuberculosis	Any occupation involving —	
		(a) close and frequent contact with a source of tuberculosis infection,	12 months

Sl. No.	Description of occupational disease or injury	Nature of occupation	Period
		e.g. in the medical treatment or nursing of a person or persons suffering from tuberculosis, or in a service ancillary to such treatment or nursing; or (b) exposure to anymaterial which is a source of tuberculosis infection, e.g. in a laboratory.	
22	Ulceration of the corneal surface of the eye	Any occupation involving exposure to tar, pitch, bitumen, mineral oil (including paraffin), soot or any compound, product, or residue of any of these substances.	12 months

Forms

Form 1: Registration of Workplace

Date: ……..

Application for: Registration ☐ **Re- registration** ☐

1. Details of Enterprise/Workplace

    a. Name of enterprise/workplace:……
    b. Trade license No.: ……
    c. CBD license No. (construction only):……
    d. Nature of business: ……
    e. Date of commencement of business: ……
    f. Location:
    Dzongkhag…… Dungkhag……
    Gewog……
    exact location……

2. Contact person

Name:		Designation:	
Telephone/mobile No.:		Fax No.:	
Email:		PO box No.:	

3. Number of employees

Type of Employee	(Temporary)		(Regular)		Below 15 years	Below 18 years
	Male	Female	Male	Female		
Bhutanese						
Foreign Employees						
Total						

4. Technical information

Machinery and equipment or other devices. *example: boiler; pressure vessel; internal combustion engine diesel, gasoline, etc..*	**Material handling equipment and devices: *example: hand trucks, power trucks, conveyors, etc..***	**Chemicals or substances used**
1.	1.	1.
2.	2.	2.
3.	3.	3.

(***Note:*** *Additional sheet may be used if required*)

5. If branch unit, name of parent workplace:
   Dzongkhag……
   Dungkhag…… Gewog……
   exact location……

I hereby certify that the above information is true and correct. If any information is found to be incorrect, I shall be liable for penalty as per the Regulation on Working Conditions, 2022.

Owner/Manager

Date:

Official use only

Received and Approved

Director/Director General, Department of Labour, MoLHR

Date:

Form 2: Information regarding Closure of Unit/ Establishment/ Workplace

1. Name of the unit/Estt/Workplace:
2. Address of the Workplace:
3. Registration No.:
4. Date of closure:
5. Probable period of closure:
6. Reason of closure:
7. Nature of closure:
8. Date of re-opening:
9. No. of Employees on roll of workplace:
10. No. of working days in which the unit remained closed during the month:
11. No. of persons likely to be affected/unaffected by the closure:
12. Rate of compensation and/or benefits if any, paid to remaining employees due to the closure:

Dated: Name and signature of employer

Form 3:Establishment of Health and Safety Committee

1. Enterprise: ……..

   Address ……

   Tel: …… Fax: …… e-mail……

2. Nature of Business: ……
3. Number of Employees: ……..
4. Composition of Health and Safety Committee

   Chairperson: ……

   Members: ……..
   ……
   ……
   ……
   ……
   Secretary: ……

   Establishment Date: ……

I hereby certify that the above particulars are true and correct to the best of my knowledge.

Name & Signature of Employer

Date

Form 4: Report of Examination of Pressure Vessel

1. Name of workplace proprietor/owner: .....

2. Situation and address of workplace: .....

3. Particulars of vessel:

    a. Name, description and distinctive number of pressure vessel:

    b. Name and address of manufacturer:

    c. Nature of process in which it is used:

    d. Date of installation:

    e. Thickness of walls:

    f. Date on which the vessel was first put into use:

    g. Safe working pressure recommended by the manufacturer:

    h. The history should be briefly given, and the examiner should state whether he has seen the last previous report:

4. Date of last hydraulic test (if any) and pressure applied:

5. Is the vessel in open, or otherwise exposed to weather or to damp:

6. What examination and tests were made? (specify pressure if hydraulic test was carried out.)

7. Condition of vessel (State any defects materially affecting the safe working pressure or the safe working of the vessel).

External .....

Internal .....

8. Are the required fittings and appliances provided in accordance with the rules of pressure vessels?

9. Are all fittings and appliances properly maintained and in good condition?

10. Repairs (if any) required, and period within which they should be executed and any other condition which the person making the examination thinks is necessary to specify for acquiring its safe working conditions

11. Safe working pressure, calculated from dimensions and from the thickness and other data ascertained by the present examination, due allowance being made for conditions of working if unusual or exceptionally severe (State minimum thickness of walls measure during the examination)

12. Where repairs affecting the safe working pressure are required, state the working pressure:

    i. Before the expiration of the period;

    j. After the expiration of such period if the required repairs have not been completed;

    k. After the completion of the required repairs.

13. Other observations

I certify that on…….. the pressure vessel described above was thoroughly cleaned and (so far as its construction permits) made accessible for thorough examination and for such tests as were necessary for thorough examination and that on the said date, I thoroughly examined this pressure vessel including its fittings, and that the above is a true report of my examination.

Signature……..

Qualification ……

Address…….

Date:……..

If employed by a Company or Association, give name and address

Form 5: Report of Examination of Hoist or Lift Installed at a Workplace

1. Address:

2. (a)Type of hoist or lift and Identification number or description.

   (b)Date of construction or re-construction (if ascertainable).

3. Design and construction
   Are all parts of the hoist or lift of good mechanical construction sound material and adequate strength (so as ascertainable)?

4. Maintenance
   Are the following parts of the hoist or lift properly maintained and in good working order, if not, state what defects have been found:
   a. Enclosure of hoist way or lift way
   b. Landing gates and cage gate(s)
   c. Interlocks on the landing gates and cage gate(s)
   d. Other gates fastenings
   e. Cage and platform and fittings guides, buffers, interior of the hoist way or lift way
   f. Over-running devices
   g. Suspension ropes or chain and their attachments
   h. Safety gear, i.e. arrangements for preventing fall of platform or cage brakes
   i. Brakes
   j. Worm or super gearing
   k. Other electrical equipment
   l. Other parts

5. What parts (if any were) inaccessible?

6. Repairs, renewals or alternations (if any) required and the period with which they should be executed.

7. Maximum safe working load subject to repairs, renewals or alterations (if any) specified in (5).

8. Others

I/we verify that on ..... I/We thoroughly examined this hoist of life and that above is correct report of the result.

Signature.....

Counter signature.....

If employed by a company or
association give names and address

Qualification .....
Address .....
Date .....

Date.....

Note : Details of any repairs, renewal or alterations required should be given in 5 above.

Form 6: Notice of Dangerous Occurrence which does not Result in Death or Bodily Injury

Note : To be completed in legible handwriting or preferably typewritten.

1. Name of the Enterprise/Workplace: …….
2. Address: ……..
3. Name of the Employer: …….
4. Name of the Manager: ……...
5. Nature of Industry/Enterprise: …….
6. Branch or Department and exact place where the dangerous occurrence took place:……..……..
7. Date and Hour of occurrence: …….
8. Nature of dangerous occurrence: ……. (State exactly what happened. Use additional sheets)

I certify that, to the best of knowledge and belief the above particulars are correct in every respect.

Signature of the Employer/Manager

Date of dispatch of Report

(This space to be completed by Labour Inspector)

Date of receipt: ……..

Date of Investigation: ……..

Result of Investigation: …….

Form 7: Register of Accidents and Dangerous Occurrences

Name of injured person (if any)	Date of accident or dangerous occurrence	Date of report (in Form 6 and 8) to Labour Inspector	Nature of accident or dangerous occurrence	Date of return of injured person to work	No. of days Injured person was absent from work

Form 8: Workplace Injury and Disease Reporting and Recording Form

Reference number: ……

1. Name of the Enterprise/workplace: ……..

2. Nature of Business: ……..

3. Contact person: ……

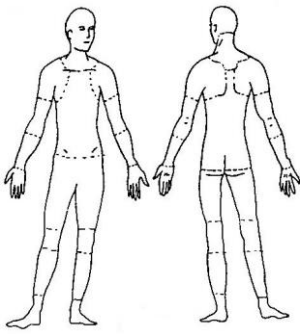
4. Address/ Location: ……..
   Tel: ……. Fax: ……
   E-mail: ……..

5. Incident Investigation

Instructions: *Complete this form as soon as possible after an incident that results in serious injury or illness. (Optional: Use to investigate a minor injury or near miss that could have resulted in a serious injury or illness.) Individual incident investigation form should be filled up for every person involved in incident or accident.*

This is a report of a:	
☐ Death	☐ Lost Time
☐ First Aid Only	☐ Dangerous Occurrence
☐ Injury	☐ Occupational Diseases
Date of incident:	
This report is made by:	
☐ Safety Officer	☐ Employee
☐ Supervisor	☐ Others

Step 1: Injured employee (complete this part for each injured employee)

<table>
<tr><td>Name:</td><td>Sex: ☐ Male ☐ Female</td><td>Age:</td></tr>
<tr><td>Department:</td><td colspan="2">Job title at time of incident:</td></tr>
<tr><td rowspan="2">Part of body affected:
(shade all that apply)
  </td><td rowspan="2">Nature of injury:
(most serious one)
❑ Abrasion, scrapes
❑ Amputation
❑ Broken bone
❑ Bruise
❑ Burn (heat)
❑ Burn (chemical)
❑ Concussion (to the head)
❑ Crushing Injury
❑ Cut, laceration, puncture
❑ Hernia
❑ Illness
❑ Sprain, strain
❑ Damage to a body system:
❑ Others: ……</td><td>This employee works:
❑ Regular
❑ Contract
❑ On the job training
❑ Temporary</td></tr>
<tr><td>Months with this employer:

Months doing this job:</td></tr>
</table>

Step 2: Describe the incident

Exact location of the incident:	Exact time:
What part of employee's workday? ☐ Entering or leaving work ☐ Doing normal work activities ☐ During meal period ☐ During break ☐ Working overtime ☐ Other_____	
Names of witnesses (if any):	
What personal protactive equipment was being used (if any)?	

Step 3: Why did the incident happen?

Unsafe workplace conditions: (Check all that apply)	Unsafe acts by people: (Check all that apply)
❑ Inadequate guard ❑ Unguarded hazard ❑ Safety device is defective ❑ Tool or equipment defective ❑ Workstation layout is hazardous ❑ Unsafe lighting ❑ Unsafe ventilation ❑ Lack of needed personal protective equipment ❑ Lack of appropriate equipment / tools ❑ Unsafe clothing ❑ No training or insufficient training ❑ Others: ……	❑ Operating without permission ❑ Operating at unsafe speed ❑ Servicing equipment that has power to it ❑ Making a safety device inoperative ❑ Using defective equipment ❑ Using equipment in an unapproved way ❑ Unsafe lifting ❑ Taking an unsafe position or posture ❑ Distraction, teasing, horseplay ❑ Failure to wear personal protective equipment ❑ Failure to use the available equipment / tools ❑ Others: ……..
Why did the unsafe conditions exist?	
Why did the unsafe acts occur?	
Is there a reward (such as "the job can be done more quickly", or "the product is less likely to be damaged") that may have encouraged the unsafe conditions or acts? If yes, describe:	

Were the unsafe acts or conditions reported prior to the incident?	❑ Yes	❑ No
Have there been similar incidents or near misses prior to this one?	❑ Yes	❑ No

Step 4: How can future incidents be prevented?

What changes do you suggest to prevent this incident/near miss from happening again?

❑ Stop this activity	☐ Guard the hazard
❑ Train the employee(s)	☐ Train the supervisor(s)
❑ Redesign task steps	☐ Redesign work station
❑ Write a new policy/rule	☐ Enforce existing policy
❑ Routinely inspect for hazard	☐ Personal Protective Equipment
❑ Other: ……..	

What should be (or has been) done to carry out the suggestion(s) checked above?

Description continued on attached sheets: ☐

Step 5: Who completed and reviewed this form? (Please Print)

Written by: Department:`	Title: Date:
Names of investigation team members:	
Reviewed by:	Title: Date:

Step 6: Documents

Number of attachments: ____

- ☐ Written witness statement
- ☐ Medical certificate / death certificate (*incase of injury and occupational disease*)
- ☐ Photographic evidences
- ☐ Sketch and drawings (*place/site of incidant occurred*)
- ☐ Others: …….